The Grand Coherence
A Modern Defense of Christianity
By Nathan Smith

The Grand Coherence: A Modern Defense of Christianity

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THE GRAND COHERENCE: A MODERN DEFENSE OF CHRISTIANITY

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Written by Nathanael Smith.

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Publishing Strategy and the Rights to This Book

About three years ago, I got a contract with a publisher for a book that would update the work of C.S. Lewis, modernizing his arguments in light of new developments in physics, biology, philosophy, and culture. A committee read a 40-page summary and gave me a green light. But I had overpromised. I said I could write a book fulfilling the outline in 50,000 words. It took me over 120,000 words. They ultimately turned down the book. This is that book.

The Grand Coherence: A Modern Defense of Christianity has an ambitious scope, so that rather than laboriously seeking an editor who is enough of a polymath to take it on, I am turning into an experiment in 21st-century publishing. The internet age creates fascinating new possibilities to create the garden of Socrates in cyberspace, and many fascinating experiments in that direction have broken out in recent years: the blogosphere, Twitter, Facebook, Substack, Audible, and so forth. Distribution has suddenly become strangely easy, but the resulting hubbub makes it hard to get noticed. But God grant that I may speak true if I say that I'm not seeking fame, except instrumentally, as a means to make contact with multitudes, to persuade and make disciples for Christ. I'll feel well rewarded if *The Grand Coherence* becomes a focal point of enlightening conversation among friends, and very well rewarded indeed if it helps to make even one Christian convert, as C.S. Lewis was instrumental in making a Christian convert of me long ago.

And so my evolving publishing strategy will try to live up to the following principles:

- Free distribution on all zero marginal cost (electronic) platforms
- Pricing at cost on positive marginal cost platforms (notably printing)
- Limited solicitation of payment, and only from readers who can comfortably afford it
- Facilitation of discussion through the creation a single nexus, probably Substack, where I'll commit to ongoing engagement

Audiobook format is critical to this strategy. I personally never read books. Life is too busy for that. But I listen to audiobooks incessantly, because my hands and eyes can be busy, doing dishes, or stacking wood, or driving, or whatever, while my ears and mind are busy absorbing the text of a great book. It's an incredible, wonderful enrichment of my life. And while to produce *The Grand Coherence* as a professional quality audiobook is outside my budget, it's easy to generate audio files with an AI narrator, using Amazon's Polly app. Hyperlinks to all the audio chapter files are in the table below. In the last column are Substack links to all the chapters.

Chapter	Length	Substack Link
1. The Task of Apologetics	9:12	Substack
2. How to Decide What to Believe	18:39	Substack
3. The Resurrection of Jesus Christ	16:24	Substack
4. Agreement, Disagreement, and the Quest for a Coherent Worldview	26:28	Substack
5. The Feedback Loop Between Worldview and Evidence	29:09	Substack
6. The Grue Problem, the Reality of Ideas, and the Meaning of Knowledge	24:19	Substack
7. Physics and Christianity	31:00	Substack
8. Biology and Christianity	37:42	Substack
9. The Hollow Faith of Scientific Materialism	47:22	Substack
10. Genesis	40:09	Substack
11. The Golden Rule	36:10	Substack
12. Sociobiology, the Sexes, and Human Nature	34:07	Substack
13. The Case for Chastity	54:03	Substack
14. Pre-Christianity and the Commonsense Theology of Creation and Fall	31:18	Substack
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21. Eastern Orthodoxy	34:56	Substack
Total	11:31:16	

I'll also maintain one introductory post with all the chapter links. If you want a physical copy of the book, I'm working on that, and will make sure to update the Substack page when it's available.

If you want to get in touch with me, I'm reluctant to share an email or phone for fear of spam, but you can reach me via my Substack, my LinkedIn or my Facebook. Substack is also a way to pay me if you feel so inclined. This book has nothing to do with how I earn my living (I'm a technology policy consultant), and I'm content to be a "tent maker" like Saint Paul. And yet, if it's the will of God that I become a full-time Christian apologist someday, I'll be delighted. Money is a way to vote for that. Also, I would welcome donations for specific steps in marketing the book, such as production of a professional quality audiobook. No pressure, just say a prayer and see what you think God wants you to do.

More importantly, if you have intellectual stumbling blocks to accepting the Christian faith and devoting your life to Jesus, I'd like to know about them and see if I can help. Please feel free to get in touch with me and tell me what you need to have explained, and I'll do my best to answer your doubts. I'll be especially grateful if you find flaws in the argument that need to be addressed. And please promote this book via your social media platform if you think it would be good for more people to read and engage with it.

Bookstores, feel free to order copies and resell at whatever price you see fit. I'll be glad to hear about how it sells, but that's not a condition. Any translations or reprints are hereby authorized as well. Anyone who wants to make a professional quality audiobook of *The Grand Coherence* and sell it at whatever price or through whatever channels is welcome to do so. Get in touch if you'd like me to review and recommend it. Excerpting and abridging is also permitted without limitation.

In Christ,

Nathan Smith, PhD

Chapter 1. The Task of Apologetics

Is the Christian religion true? On what grounds are we entitled to believe that it is? How strong is the evidence for it? This book seeks to answer those questions using reasoning and argument, and concludes that the Christian faith is true. That makes this a book of *apologetics*, and me an *apologist*.

Christian apologists like me never seem to be completely successful. We always leave some people unconvinced. I think Christian apologetics can nonetheless do a lot of good. It can break down the certainty of unbelief, remove intellectual stumbling blocks to faith, educate and fortify half-made believers, edify and gladden the devout, and transmit tradition. It is often useful, too, in refuting the heresies that corrupt the Church from within, because orthodoxy is the most rational and coherent version of the Christian faith. But we never win over all the opposition.

I think that's because apologetics deals specially in the *public* case for Christianity, but it takes a mix of public and private evidence to convince people. Public evidence is more or less equally available to all the educated people in a given generation. Private evidence is known directly to a specific individual, and very imperfectly communicable to others. For example, some Christians have witnessed, or claim to have witnessed, miracles. But it is reasonable for the public to doubt accounts of miracles, because miracles are inherently improbable or exceptional. *Reports* of miracles are public evidence, sometimes very important as in the case of the Resurrection of Jesus, but to have heard about a miracle is quite a different matter from having seen one. Other Christians have experienced answers to prayer, felt moments of supernatural joy and beatitude, or been rescued from trouble by fortunate coincidences that seem like the aid of God, or a guardian angel. Such private evidences for the faith may be overwhelming to those who directly experience them, but are less likely to, and in a sense don't deserve to, convince anyone else.

It is the task of the apologist, meanwhile, to deal specially in public evidence, such as written records, known historical and scientific facts, logical arguments, and appeals to mundane experiences familiar to all or most, rather than special supernatural ones. Unlike the Christian teacher of uninstructed Christians, the apologist can cite no Christian text as

authoritative. I will not treat the truth of the Bible, for example, as an assumption that I can expect the reader to accept. The Bible and all other Christian traditions here need to be defended.

Paradoxically, apologists have nothing new to say in the most important matters, yet to be effective, they must be quite modern and up-to-date. Apologists must be modern because their business is public evidence, and public discourse is constantly changing. Not only do new relevant facts come to light, but the whole way people define and process evidence, and what they find obvious, likely, plausible or absurd, is always changing. Again and again, what is commonplace is one generation or century becomes controversial in the next, and vice versa. Styles of argument go in and out of fashion, as do cultural reference points. So apologetics, to remain in health, must be rebuilt again and again in the latest style.

Christian doctrine itself, meanwhile, stays the same as the world changes. It does keep getting explained and applied, and in that sense it expands a little, but in all the essentials it was present from the beginning. Well-instructed and devout Christians can see all the beliefs that comprise their faith taught or adumbrated in the New Testament and/or the Old Testament interpreted in the light of the New. Cases where an early Christian thinker taught what later was determined to be a heresy, but is held blameless because the Church hadn't yet authoritatively settled the matter, exist, but are very rare. It's not characteristic of the Church to promulgate new doctrines, or to withdraw or retract any doctrine, and even authoritative clarifications are rare. So the apologist must be very ancient and very modern, very trendy and very traditionalist, so as to meet people where they are and lead them to Christian truth. That’s why I think it’s worth writing a new apologetic book when there are good ones already, notably those of G.K Chesterton and C.S. Lewis, to whom I am deeply indebted, but whom I think I’ll be able to improve on in some ways, simply because I’m alive today and they've been dead for decades.

The book proceeds as follows. Chapter 2 studies probability and how we know things, motivating the study by the question of why people agree on so many things but disagree about religion. Chapter 3 presents the evidence that the Resurrection really happened, and applies probability math to the peculiar case where one of two very improbable things, namely, the resurrection of Jesus or a massive, ingenious conspiracy to fake the resurrection of Jesus with no motive, must be true. Chapters 4, 5, and 6

explore belief and knowledge in more depth, showing how we must let evidence have its say, but also try to develop a coherent worldview in which all our beliefs are consistent and in reflective equilibrium, and how basic inductive reasoning depends on recognizing the reality of ideas. I also begin to lean heavily into the natural sciences starting in chapter 5, looking at the emergence of modern science through figures like Copernicus, Galileo, and Newton. Chapter 7 shows how recent developments in physics, such as the Big Bang and the Second Law of Thermodynamics, have tended to harmonize it with long-standing Christian doctrines like creation and the fall. Scientific resistance to Christianity today comes, above all, from biology and theory of evolution, which are the theme of chapter 8. Chapter 9 sums up the many arguments against scientific materialism that have been made along the way, adds more, and in short, refutes the false ideology that is Christianity's chief rival today, and thereafter the book sets aside modern biases and tries to help the reader look at the world with fresh, objective eyes.

The next few chapters deal with hot topics that are stumbling blocks to faith. Chapter 10 suggests a reconciliation of Genesis 1 with scientific natural history, to dispel the doubts of those who fear Christianity can't be true because of its teachings about the world's origins. Chapters 11, 12 and 13 defend Christian sexual ethics in a modern way, by using sociobiology, also known as evolutionary psychology, as a key to the natures and instincts of the sexes, and then combining that with the Golden Rule to deduce novel arguments for chastity and marriage and against the alternatives.

Finally, the book turns to the positive case for the Christian worldview as a whole. Chapter 14 explores the tragic riddle of the world as pre-Christian mankind encountered it, a wisely ordered and beautiful world, yet beset with evil and decay. In short, Creation and Fall. Chapter 15 shows that Jesus is the world champion of ethical teaching and conduct, and explores the logic of why Jesus being the exception to human moral fallenness tips the balance in favor of the claim that He was also the exception to the permanence of human mortality. Chapter 16 studies the history of the Christian Church, which though comprised of sinners yet stands out as the great exception to the tragic pattern of moral decay that pervades human history. It also notes a curious pattern whereby the apologist's task seems to have remained equally difficult in every age, as different arguments for the faith wax and wane in persuasiveness, as if God has been making sure that

humans are free either to believe or to disbelieve the good news of the Gospel. Chapter 17 asks what redemption could mean, what outcome could possibly answer the riddle of the world and satisfy the yearnings of the human heart, and shows why no external change could make us lastingly happy without a moral change within ourselves which we do not seem to be capable of achieving on our own. Yet Chapter 18 shows how the promises of God in scripture answer the impossible yearnings of the human heart.

Chapter 19 brings the public argument for the faith to a climax by wrestling with the question of why God became man, but in a sense unsuccessfully, for here we encounter a mystery, which my arguments can at best adumbrate and suggest. Here we approach the limits of what public evidence and arguments can do. I don't think apologetics alone can fully explain the faith or make converts to it, but I think it can open the mind to faith, so that a little bit of private evidence, such as a few answered prayers, a divine visitation or two, or just the tiniest little miracle, can finish the job. When people are ready, God won't withhold that. And Chapter 20 studies prayer, to help readers who really want to know to get that little bit of private evidence that, combined with the public evidence, can establish a complete conviction of Christian truth.

Finally, Chapter 21 explains why my allegiance is to the Eastern Orthodox Church in particular, rather than any of the numerous other Christian churches on offer today in a tragically divided Christianity. But while my own Eastern Orthodox commitments are no secret, they are not the theme of this book. A reader who skips this first chapter will hardly be able to guess my specific denominational allegiance until Chapter 21. I seek to follow C.S. Lewis in defending "mere Christianity," the common doctrinal heritage of all Christian churches, not to take sides in intra-Christian disagreements. I think what Christians share is much more important than what they disagree about.

One warning before we proceed: the argument will involve some math. I think that's appropriate, because we are trying to figure out what's true, so mathematical probability is relevant. I hope, nonetheless, to reach readers without strong math skills. Unmathematical readers will need to pick their way through the mathematical bits of the book, and try to understand what I'm doing and claiming, even if they can't check my calculations, but they may need to take some things on trust. I beg their patience. I think they'll do fine in the end.

Chapter 2: How to Decide What to Believe

You've probably noticed that people agree easily about a lot of things, but they disagree about religion.

As a few examples of easy agreement, you and I and the next stranger you see on the street could all agree that summer is hotter than winter, and that oak leaves fall in autumn, that cars can drive fast and the moon is white, that cats hunt mice and ticks bite people, that Isaac Newton discovered the law of gravity, that ice cream is cold and sweet, that 2+3=5, and that Bill Gates is rich. I could go on and on.

But colleagues in the same office, students in the same school, and even members of the same family disagree about whether God exists, whether miracles occur, whether Jesus was divine, whether there is a devil, whether it is right to read the Bible and obey its rules, and whether human beings can live forever.

Is religion unique? Aren't there other things we disagree about? What about politics? That's not the same. Political disagreement is usually about clashing *preferences* and *values* rather than facts. I may deplore a president whom my neighbor admires: we call that a "matter of opinion." But we agree who is president: we call that a "fact." By contrast, in religion we disagree, first of all, about facts. Does God exist? Did Jesus rise from the dead?

Disagreement about religion contrasts with easy agreement about many facts of everyday life. Yet there is an interesting group of people who have a long-standing professional hobby of dissenting from the easy, complacent agreement that most people share. They are called philosophers, and it is their distinguishing mark to question everything. As some people think that religion begins with a "leap of faith," so philosophy begins with what might be called a leap of doubt.

In ancient times, the philosopher Socrates (470-399 BC) questioned everyone, and reduced them to confusion. They found themselves led into self-contradiction. When this practice annoyed the Athenians to the point of wanting to kill him, he explained, at his trial, that he knew nothing, yet an oracle had once told him that he was the wisest man in Greece! In asking questions, he had been trying to disprove the oracle by finding someone wiser than himself. Instead, he told the jury, he had inadvertently proved the oracle right in the end, for he discovered that no one else knew anything either, but he at least knew he knew nothing, which gave him some advantage. This defense made the Athenians so angry that they put Socrates to death. He has been a kind of secular

patron saint of philosophy and critical thinking ever since. He was a martyr, not to faith, but to doubt.

Modern philosophy began rather similarly, when Rene Descartes (1596-1650) decided that all his beliefs were unfounded. He began to systematically demolish them, in order to rebuild his beliefs on truer foundations. He doubted so much that he was left with nothing but “I think therefore I am.” That was his only belief that he could not doubt, so it became the beginning of his philosophy. Descartes went on to argue that there must be a God to sustain things, and God, being perfect, would not be deceptive, so our commonplace beliefs are valid after all... but this part of Descartes’ argument has satisfied few, and philosophers since have generally imitated his question rather than his answer. It has become the lofty duty of philosophers to take Descartes’s leap of doubt.

The British empiricists Locke (1632-1704), Berkeley (1685-1753) and Hume (1711-1776) pursued the project of doubt still more resolutely than Descartes. David Hume carried critical inquiry so far as to call into question whether inductive reasoning itself, that is, the inference from patterns that is the basis of all science, is valid. Hume’s philosophy seems to lead to complete skepticism, that is, the abandonment of all our claims to know anything, a conclusion that is probably not psychologically possible to fully embrace. But Hume’s great leap of doubt also became part of the heritage of philosophy, and generations of philosophers have taken it. I myself took the leap of doubt long ago, somewhere around age 20, after being raised in a church that taught odd things, which intellectual honesty forced me to leave. Trying to figure things out on my own has been an interesting adventure, and it led me, in due course, to the truths I know today, so I’m grateful for the examples of Socrates, Descartes, Hume and other philosophers who served as role models for the leap of doubt that began my journey.

To this day, the abstract skeptic, who lies in wait at the end of the long road of critical inquiry, still haunts philosophers. They worry a good deal about how to refute the skeptic and prove that mankind is entitled to claim some knowledge. Ordinary people, meanwhile, are not troubled by the question. They take it for granted that people know things. The philosopher’s leap of doubt may seem silly, yet philosophy has accomplished a great deal by doubting away false inherited beliefs and opening the door to new, truer ones. From the doubts of Socrates sprang the genius of Plato (maybe 428-348 BC) and the practical wisdom of Aristotle (384-322 BC), and Descartes helped to set the stage for modern science.

But we can’t let doubt have everything its way. People of all cultures confidently believe lots of things in common, as they need to, and ought to.

They believe, for example, that they have feet and knees and hands and chests, that words have meaning, that food is good for the body, that day alternates with night, that trees are green, roses are red, skies are blue, clouds are white, and far, far more. There is nothing wrong with asking how we know these things, if we can find a good answer. But to sacrifice these universal, necessary beliefs to our philosophical scruples would be a pitiful trap to fall into. How would a skeptic live for a single day? He couldn't even get out of bed in the morning, because infinite doubt would have erased from his mind the knowledge that the floor will bear his weight.

To avoid falling into the trap of infinite doubt, we need, first of all, to explain, and hopefully to more or less justify, people's easy agreement about a vast variety of everyday, commonsense beliefs. And yet we need to do it without proving too much, for if we end up concluding that everyone must agree about everything, then our conclusion will be contradicted by, among other things, the vast disagreements that prevail among people when it comes to religion.

I think I know where to begin an explanation of everyday commonsense agreement about things. It's called Bayes' Law.

Bayes' Law is a mathematical rule for how rational people should update their beliefs in response to new evidence. It states—prepare to be confused!—that the probability that theory A is true, given evidence B, is the product of the probability that evidence B would be observed, if A were true, times the prior odds that theory A is true, divided by the prior odds that event B would be observed. The prior odds that event B would be observed, in turn, are the odds that B would be observed if A is true times the probability that A is true, plus the odds that B would be observed if A is false, times the probability that A is false.

Here it is in mathematical notation:

PA|B=PB|APAPB|AP(A)+P(B|-A)P(-A)

What is hard in the abstract often becomes easy in an example.

Suppose a famous jewel is stolen from a duke's treasury, and the suspects are master burglar Dapper Dick and amateur burglar Slick Stan. A detective investigating the case initially thinks the odds are 95% that the thief was Dapper Dick. He then learns that Slick Stan was seen prowling in an out-of-the-way village very near the castle from which the jewel was stolen, just a few hours before the theft. How likely is it *now* that Slick Stan is the culprit?

To settle that using Bayes' Law, the detective must first settle:

- *P(A)*, the prior likelihood that Slick Stan is the thief, which is 5%.

- *P(B|A)*, the likelihood that Slick Stan would have been in that village, if he were on his way to the crime. Let's say that's 20%.
- *P(B|-A)*, the likelihood that Slick Stan would have been in that village, without being on his way to the crime. Let's say that's 1%.

Bayes' Law then yields:

PA|B=PB|APAPB|AP(A)+P(B|-A)P(-A)=20%×5%20%×5%+1%×95%=51.3%

A 51% probability of guilt isn't enough to convict, but the sighting of Slick Stan near the scene of the crime makes him, narrowly, the prime suspect. So, with the help of Bayes' Law, a clue has been put to good use.

Now, I may seem to have used a lot of words and difficult symbols to make a very simple point. Anyone could have figured out, without help from Bayes' Law, that it was suspicious that Slick Stan was lurking so near the scene of the crime, and the lack of an innocent reason for him to have been there strongly suggests that he stole the jewel.

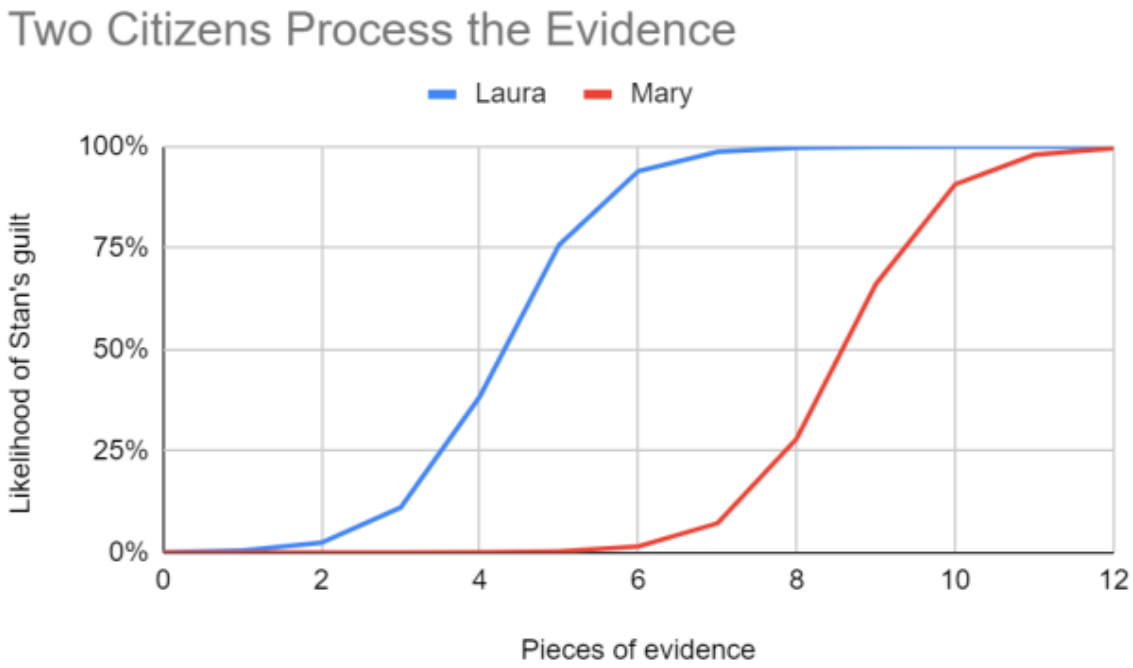
What the math does here is to codify common sense. And turning commonsense, intuitive reasoning into math, though it seems laborious and pedantic at first, has its benefits. It provides a hard logical warrant for what might otherwise seem like just a feeling. It helps us generalize from situations we readily understand to situations that are more confusing. And it reveals an important and subtle truth, namely, that our ability to process evidence is dependent on many background beliefs that comprise our worldview.

In order to process and draw a conclusion from a piece of evidence, the detective needed three prior beliefs, one about Slick Stan's guilt, and two beliefs about his likelihood of visiting the village with or without a criminal errand in the vicinity. What justification does he have for those prior beliefs? Perhaps they, in their turn, had Bayesian justifications, but if so, that would require even more priors. The chain of Bayesian inference keeps branching more and more, without any terminus. The arbitrariness of priors cannot be overcome.

This may seem like a very damaging objection to Bayes' Law as a principle for practical reasoning. But it turns out that new evidence always moves good Bayesian rationalists in the same direction. So as evidence accumulates, they converge on the truth.

An example may illustrate the point. Suppose there are two citizens living near the castle, Laura and Mary, who hear about the jewel theft. Both of them initially disbelieve the allegation that Slick Stan was the thief. Laura thinks there's only one chance in a thousand that Stan stole the diamond. Mary thinks there's only one chance in a million. But then more and more bits of evidence

appear, which, though none of them are conclusive in themselves, are all more consistent with Stan's guilt than his innocence. The chart below shows what happens to these two subjects as the evidence accumulates. (I can provide the spreadsheet with the calculations behind the chart to anyone who is interested.)



This chart offers three big lessons:

1. People converge on the truth, if there's enough evidence.
2. People tend to change their minds fairly quickly if they do it at all, because intermediate states of confidence are unstable.
3. Extreme disagreement can be rational when there is a middling amount of evidence.

The first lesson is intuitive and reassuring. Evidence persuades. Data changes minds. As more and more relevant information accumulates, people's views come increasingly into agreement with each other. We sought an explanation for why people agree on such a vast variety of everyday, commonsense beliefs to live by. Now we've found one. All people need to do is process evidence in roughly Bayesian fashion, and they can learn from experience and converge on the truth. So far, so good.

The second lesson is more surprising. Laura and Mary change their minds at different times, but when the change comes, it happens fairly quickly. The movement in their states of belief is very non-linear. It's very slow at first, then fast, then slow again. When they are almost sure that Stan is innocent, or guilty,

a bit more evidence doesn’t move them very much. Confident beliefs are stable. But when they are very uncertain, every bit of evidence matters a lot. Doubt is unstable. Does your experience confirm this? I think mine does. Religious conversions, in particular, don’t usually happen overnight, but often occur over the course of a couple of years or even a few months, which is a short time in the grand scheme of things.

The third lesson is so counter-intuitive that I would find it hard to believe if I hadn't just proved it with math. When two people confidently hold opposite opinions, we might assume that either they’ve seen very different evidence, or that at least one of them is not being very rational. But Laura and Mary, after seeing the exact same six pieces of evidence, diametrically disagree, even though they are perfect Bayesian rationalists. Why? Because they had different priors. Yet the difference in their priors was so slight that it could scarcely have been discerned. Both might have said they were sure that Stan was innocent. There was a difference, but it seems meaningless. And yet new evidence drove an enormous wedge between people who initially agreed. Does experience confirm this? It's hard to come up with clear examples of it, yet one does stand out: the Resurrection of Jesus. We’ll do math on that one in the next chapter, but it’s clearly a claim about which smart people diametrically disagree, even when they seem to have all the same evidence available to them.

So why do we agree? What is the explanation of everyday commonsense agreement about things?

Let's start with this story, though we may need to revise it later: Ordinary commonsense knowledge is explained and justified by the way we learn from experience. There are rules of evidence that we apply instinctively, but that can be logically grounded in Bayes’ Law. We are always watching, listening, swapping stories, and thinking. As we do this, our general notions about the world, wherever they come from—and usually, we can’t remember that—are constantly being tested by experience. Most of the time, these general notions put us at our ease, and make the world predictable. When the world meets our expectations, we invest still more confidence in the general notions that successfully predicted how things would go.

Sometimes, events take us by surprise, and we have to deal with the unexpected. When that happens, we revisit the general notions that gave us the false expectations, and doubt or discard them. In adults, this process has been going on for many years, and by learning from experience, we have acquired a worldview, which is not infallibly right, but is fairly accurate with respect to the bits of the world that we customarily inhabit, and the situations in which we find

ourselves every day. Others have learned in the same way, so their worldview is largely the same as ours, in these sorts of ordinary situations.

Of course, we can't remember the learning process. We can't remember all the evidence we've seen. We can't remember all the times when one of our general notions was reinforced, or corrected, or forgotten. The full tale of all our experiences is lost, or remembered only by God. But we know more or less how our minds work. And so, looking backward, we can guess, more or less, how our notions came to be what they are. When Bayes' Law shows us how, logically, evidence ought to be processed, we can recognize that that's what we habitually do, or close to it. Therefore, we have reason to think that our worldviews are reliable.

Since we can see that other people process evidence similarly to the way we process it ourselves, we can regard their worldviews as more or less reliable, too. Learning from others is quite consistent with Bayesian rationality. An opinion held by another is a bit of evidence that that opinion is true. In this way, individual minds meld together somewhat, forming a culture, and a lot of beliefs are borrowed from the culture, all quite rationally. We use words like "common sense" or "common knowledge" to describe beliefs that are generally shared in this way.

Again, this account of the basis of knowledge will need some objection handling and refinement later on, but it will do for now. The other part of the challenge was to avoid proving too much by leaving room in our account of knowledge for persistent religious disagreement. Have we succeeded in that too? Why is religion different?

There are three answers.

First, religion often deals in matters where the data is especially scanty. It deals in what is rare, exceptional and wonderful. It deals in what lies at the edges of experience. Pagans didn't generally claim to have seen Zeus or Apollo, yet there were tales that mortals had sometimes been visited by the gods and seen them face to face. Consider the example of lightning, which has sometimes gotten a special religious explanation. Everyone in pagan times, as today, had seen it. No one had actually seen Zeus or Thor wield it. But they wouldn't expect to, since they couldn't get up in the thunderclouds to see what was happening. Without data, there was no way to refute the tale that lightning was a god's weapon. When Christians tell tales of miracles, likewise, the data to support the tales is sometimes a bit scanty. And where do we go after we die? The dead tell no tales, so we have little evidence, and absent revelation, fancies and guesswork have the field to themselves.

Second, religious disagreements may be semantic rather than substantive. For example, some say they believe in God, some that they don't, some that they aren't sure. But people's external policy of representing themselves as believing in God, or not, may not correlate very well with their inner state of belief. People can mean a lot of different things by the word “God,” and some who say there is no God may be denying one conception of God, while being ready to accept another. A man brought up to believe in an angry fire-and-brimstone “God” who comes to disbelieve in that, while still feeling that there is some foundation of being, some source of meaning, some transcendent principle, for which he feels reverence, might say “I believe in God, but...” or “I don’t believe in God, but...” and mean the same thing. In ancient times, some pagans worshipped “Zeus” and others “Jupiter,” until it was settled that Zeus and Jupiter were the same god, but were they, really? What would that even mean? Religious language can be cryptic, vague, opaque, and metaphysically challenging. It has to be, because it deals with things so subtle and interior and transcendent, but the consequence is that religious language leaves much room for interpretation and misunderstanding. Sometimes a clash of words is not a clash of ideas. Sometimes we can’t tell.

But third, there is one religious disagreement which is not at all semantic, and does not arise from a lack of evidence. Did Jesus rise from the dead, or not? It is strictly a question of fact, the sort of well-defined practical fact that hard-nosed, no-nonsense journalists would write about, and police and courts would try to settle. A man in Palestine, long ago but still in the midst of recorded history, was killed, very publicly, and seen by many thoroughly dead, and then, shortly afterwards, was seen again, this time alive, by many people. This claim poses no metaphysical difficulties. We know what it is to be alive, and to be dead. It is a surprising claim, because people usually go only from living to dead and not the other way, but the evidence for it would be sufficient to establish any less extraordinary claim. What are we to make of it?

It’s a good opportunity to put Bayes’ Law to work.

Chapter 3: The Resurrection of Jesus

The New Testament claims that a man, Jesus, rose from the dead. Unlike Jairus's daughter (Mark 5:35-42) or Lazarus (John 11:1-44), Jesus was resurrected in immortality and would not die again. Instead, He ascended to heaven.

Many eyewitnesses were still living when the apostle Paul (maybe 4-64 AD) wrote to the Corinthians, probably around AD 53, that the risen Jesus "appeared to Cephas [Peter], and then to the Twelve. After that, He appeared to more than five hundred of the brothers and sisters at the same time, most of whom are still living, though some have fallen asleep. Then He appeared to James, then to all the apostles" (1 Corinthians 15). Paul's audience could check his claims. They had reason to. It was risky to be a Christian. Already the martyrdoms were beginning that would continue for three hundred years: Christians whipped, nailed to crosses, burned alive, thrown to lions, beheaded. Why face the dangers, unless they believed? Why believe, unless they had evidence, probably a lot more than was ever written down, much less preserved until now?

The apostles themselves clearly believed. They preached boldly. They faced mortal peril, and most of them died for the faith in due course. Except Paul, they were all, according to the Gospels, eyewitnesses of the Resurrected Jesus in the flesh. Why would they lie? What could their motive possibly be? What would they gain by it? It makes no sense.

Or could they have been mad? But then how did they make so many converts? People usually aren't drawn to madmen as leaders. They don't transform their lives and identities thanks to the persuasion of madmen. The apostles' success shows that they were persuasive, compelling, credible personalities, not madmen. And in their own writings, and in the words and deeds attributed to them by Luke in the book of Acts, they seem quite sane.

Could they have been the dupes of a hoax? But again, what could possibly have been the motive for such a hoax? Also, people aren't so easily fooled by a hoax, especially not when the stakes are high.

Is it possible that they never said and did those things, and the documents that say they did are later forgeries? No, the Gospels can't be much later inventions because the copies we have of them are too many and too early. The Gospels can't have been written much later than the lifetimes

of those traditionally considered their authors, Matthew the apostle, John the apostle, Mark the disciple of Peter, and Luke the disciple of Paul, and there's no good reason to doubt the traditional authorship.

The early date of the Gospels limits the options for framing theories about how and why they might have been faked. But it's not clear who would have had a motive to write fake Gospels, anyway, since few if any were benefiting in a worldly or material sense by being Christians.

Two sets of people might possibly have had a motive to write fake Gospels: the bishops, who had some power in the early Church, and the apostles, who got a certain degree of power and fame. But what would we expect to read in lying Gospels written by bishops or apostles to support their own power and prestige? Bishops would surely want Jesus to have instituted bishops and authorized them to rule the Church. Yet the Gospels say nothing about bishops!

The apostles would have served their own interests best, no doubt, by writing that they had been fearless and discerning followers of Jesus, who in turn trusted and praised them. Instead, the Gospels represent the apostles as dullards and cowards. Thus, Peter provokes Jesus to call him "Satan," loses faith while walking on water and starts to sink, and, upon beholding Christ's transfiguration, babbles something or other, whereupon the Gospel of Mark comments that (in one translation) "he didn't know he was talking about" (Mark 9:6). Above all, after boasting that he would die for Christ, Jesus tells Peter that he will deny Him three times before the cock crows, and even after hearing that and denying it vehemently, he does just that.

And so with them all. Matthew was a tax collector, a greedy traitor to his nation. Paul was a bloody-minded persecutor of the early Christians. James and John vaingloriously asked to sit on Jesus's right and left hand in the kingdom, and asked to call down fire from heaven on an unbelieving village, and were corrected by Jesus in both cases. Thomas refuses to believe the testimony of all his fellow apostles about the Resurrection. All the apostles are constantly misunderstanding and lacking faith. "Are you still so dull?" Jesus asks them (Mark 7:18). And "O unbelieving and perverse generation, how long must I bear with you?" (Matthew 17:17) And they all fled when Jesus was arrested. One only of them stood by the Cross: John, only he never names himself in his own Gospel.

Is this the picture of themselves the apostles would have presented, if they had written the Gospels, or caused them to be written, for the sake of

their own power and prestige? Even if all these things were true, they could have left them out. Only Peter, for example, could have been the source of the story about the three denials and the cock crow. Had he not told it, no one would ever know. Or, having told it to a confidant, he could have suggested that it be omitted as unedifying. Instead, the Gospels seem to go out of their way to highlight the apostles' faults and failings and follies, to the point where one has to suspect that the apostles' motive, in telling the story thus, was to discredit themselves as far as they might, to prevent themselves from being too much admired. The unfavorable way in which the Gospels describe the apostles proves the apostles' sincerity. And the sincerity that is proved when they speak against themselves adds force to their testimony of the Resurrection.

The rapid spread of the early Church strongly supports the value of eyewitness testimony of Jesus's resurrection in the eyes of people far better placed than we are to assess it. Paul says that hundreds saw the Risen Jesus, and within the lifespan of the apostles there were many thousands of believers. The news spread, and the witnesses seem to have been convincing. This is especially impressive because the claim must have seemed so strange and improbable. The Jews knew as well as we do that people don't normally rise from the dead. Their scriptures had a few examples of prophets raising other people from the dead, but not of anyone raising *themselves* from the dead. The Gospels say that Jesus foretold his own death and resurrection (e.g., Mark 8:31) but it seems nonetheless to have taken the apostles completely by surprise, and that's understandable, because resurrection is an event so contrary to all experience that it would be natural even for Jesus's admiring followers to completely discount such a prediction. You might think the news of the Resurrection would be equally disbelieved by all those who heard it. But it wasn't. Could the witnesses have been so persuasive if they were lying? Could they have made people believe the seemingly impossible if their own basis for belief were shaky or insufficient? Perhaps the converts were impressed, as we can be, by the complete lack by the apostles and other eyewitnesses of the Resurrection of any motive to lie, and were more easily convinced for that reason. That only reinforces the conclusion.

The first epistemic energy of that eyewitness testimony would have lasted long enough to fuel much of the early growth of the Church. Just adding up human lifespans, there might have been people living as late as

the end of the 2nd century AD who had known people who knew Jesus in the flesh. As late as the conversion of Constantine, some Christians might have been only four of five steps removed from personal contact with Jesus, and heard the tale, as the saying goes, fourth-hand or fifth-hand, no further removed from the events, in that sense, than many a high schooler hearing rumors about the latest hookup.

For us, the Resurrection is known through written records or perhaps the witness of the Holy Spirit. Word of mouth is too many steps removed to matter. But the early Church had more. They had the written records we have, and perhaps others, but they also had stories passed from mouth to mouth. They were convinced by them, convinced enough to die for them, and whatever stories they knew that we know not, seem to have supported their belief in the Gospels.

The case begins to look overwhelming. The death of Jesus was wrought by professional killers who knew their work. It was done very visibly and officially, in front of many people. Then Jesus rose from the dead and was witnessed alive by many. The witnesses told others, and they believed. They believed in spite of the overwhelming improbability of the claim, so the witnesses must have been persuasive, as it's hard for a liar or a lunatic to be. The events were recorded in four written accounts not long after they took place. These accounts have the character of eyewitness testimony: the broad consistency with much difference in detail; the inclusion of certain details that are striking yet not obviously significant.

The accounts were produced by simple, uneducated men, in a simple, unliterary style, yet they are so full of wisdom that they have been admired above all other writings by many of the greatest minds of two millennia, and are still admired today by many who have abandoned Christianity. Where did that wisdom come from? The Gospel accounts were circulated among people many of whom would have independent knowledge by word of mouth of the events they tell of. They were accepted by them. The seemingly impossible story gained more and more adherents, of whom thousands believed it so firmly that they faced torture and death rather than deny it. To none, essentially, of all these witnesses can any motive to lie plausibly be attributed. I could go on running up the score even more if I liked, but the truth seems plain beyond evasion: the resurrection of Jesus really occurred. To try to dream up any alternative is to plunge into a realm of absurd fantasy, of vast, ingenious conspiracies with no motive, of people

believing lying stories enough to die for them without checking easily available facts, of uneducated charlatans composing the most startling and visionary ethical teachings in history.

On the other hand...

The Resurrection is contrary to the laws of nature. We can observe the laws of nature every day. Every time we drop an object, it falls. Gravity at work. Every time we flip the switch, the light comes on. Electricity at work. It's very reliable. Every time we rotate our legs and push with our feet in a certain way, we move forward. We don't worry about whether walking will work. We don't need to think about it. It always happens, because of the laws of nature. Even if we're occasionally unable to walk, that's not because rotating legs and pushing the ground fails to cause forward motion, but because we're not able to rotate and push. Every now and then, people break their legs. But no one breaks the laws of physics, or at least, that's what all our experience seems to tell us. We feel very certain about it. The Resurrection is contrary to the laws of nature because human bodies have a rich complexity that emerges through conception and growth. But for those circumstances, the emergence of human life is astronomically improbable, or in effect, impossible. That's why when a friend dies, we don't just expect but feel completely certain that we'll never see him again in this world, walking and talking and smiling like a living man. He's gone for good. The dead don't return. Countless billions have gone that way, and never returned, and we know why.

Haven't our whole lives been a vast accumulation of evidence for the reliability of the laws of nature? The knowledge of it has become so routine that it sinks out of consciousness altogether. We could only with difficulty reconstruct and describe the muscle movements by which we do tasks as simple as walking or picking up a cup, much less complex movements like saying a sentence. But we do these things every day, and they work as we expect, and every time they do, they provide a little bit more evidence for the great generalization of the laws of nature. We do not have infinite experience, so perhaps we don't have a right to strictly infinite confidence. We sometimes do get surprised. But our confidence in the efficacy of the natural laws is justifiably very, very high. And so if we hear a tale that a man rose from the dead, we must consider that story, *prima facie*, very, very improbable.

It’s a conundrum. The resurrection of Jesus presents us with a dilemma between two extremely improbable claims, one of which must be true. The resurrection of Jesus is, *prima facie*, extremely improbable. But the testimony of the apostles, the conversion of multitudes, the courage of the martyrs, the simple eyewitness style yet tremendous wisdom of the Gospels, all claiming Jesus rose from the dead—let’s sum it all up as the rise of the early Church—also seems extremely improbable if Jesus didn’t, in fact, rise from the dead. How can we settle it?

Can Bayes’ Law help?

Well, yes, sort of. Bayes’ Law can settle exactly how probable the resurrection of Jesus is, in light of the rise of the early Church, *if* we can quantify the *ex ante* probability of the resurrection, and of the rise of the early Church, with and without the resurrection. Of course, that’s not easy to do. We can say of both the resurrection, and the rise of the early Church without the resurrection, that they’re “extremely improbable,” meaning the probability is low, but how low? One in a million? One in a billion? One in a sextillion sextillion sextillion? We can’t wrap our heads around such numbers. In normal speech, “one in a million” and “one in a billion” are practically synonyms, meaning “impossible,” and “one in a sextillion sextillion sextillion” sounds like a joke. Yet depending on how such arcane numbers get picked, the likelihood of the resurrection of Jesus can swing from nearly certain to negligible.

To see why, first define A as Jesus rising from the dead. $P(A)$ is the probability of A. Next, define B as the rise of the early Church, and $P(B|A)$ and $P(B|\text{-}A)$ as the probability that the rise of the early Church would occur if Jesus did, and didn’t, rise from the dead, respectively. $P(B|A)$ should be relatively high, since it’s not surprising that if hundreds of people witnessed a miraculous resurrection, they would spread the word, and have a big impact. $P(B|\text{-}A)$ should be extremely low, for all the reasons explained above.

So let’s try some specific numbers and see what result we get:

- $P(A)$ = 1 in 1 million
- $P(B|A)$ = ½
- $P(B|\text{-}A)$ = 1 in 1 billion

Plugging these numbers into Bayes' formula yields a likelihood of **99.8%** that the Resurrection occurred. But maybe we think the *ex ante* probability of a man rising from the dead is less than 1 in 1 million. So let's try different numbers:

- $P(A)$ = 1 in 100 trillion
- $P(B|A)$ = ½
- $P(B|\text{-}A)$ = 1 in 10 billion

With these numbers, the likelihood of the Resurrection of Jesus falls to 0.005%!

The mathematical exercise here may seem artificial and fantastic, yet its lesson is valid and important. The common sense expectation would be that neither (a) the resurrection of Jesus, nor (b) a vast, disinterested, and dangerous conspiracy to invent the resurrection of Jesus for no reason, would ever occur. Both events should be dismissed as prohibitively improbable. But since the rise of the early Church did happen, we have to choose between (a) and (b). So which is *more* improbable? If the resurrection is a bit more improbable than the conspiracy, a Bayesian rationalist would conclude that Jesus wasn't resurrected. If the resurrection was a bit less improbable than the conspiracy, a Bayesian rationalist would conclude that He was. But how can we tell? What basis have we to judge such a question? And if we judge without being able to account for how—and we have to do that sort of thing every day, so we can't *really* oppose it absolutely on principle—will we all come to the same conclusion? Evidently not, since people are in diametric disagreement about whether the resurrection occurred.

Jesus foretold as much. "I have come," He told His disciples, "to turn a man against his father, a daughter against her mother, a daughter-in-law against her mother-in-law" (Matthew 10:35). Many, many families know the truth of this prophecy first-hand. Christianity often drives a wedge between parents and children, between siblings, between spouses, with one believing, the other denying, even as they have little difficulty agreeing on most other things. And now we have a glimpse of why. Christianity forces people to choose between two impossible alternatives, and it is hard to

balance on the knife edge of indecision. People fall one way or the other, and end up polarized.

But what determines the outcome in each individual case? What determines into which certainty people fall? Bayes' Law has an answer: it depends on *priors*. That is, how people decide after consulting the evidence depends on subtle differences in worldview prior to the evidence, differences that make various possibilities seem to them plausible and likely, or implausible, or even impossible. But where do worldviews come from? That is the topic of the next chapter.

Chapter 4: Agreement, Disagreement, and the Quest for a Coherent Worldview

We saw in chapter 2 how Bayesian rationality explains our easy agreement about lots of common sense knowledge. But one historical claim, the resurrection of Jesus, is a striking exception to this pattern of agreement. We saw in chapter 3 how diametrically opposed conclusions about the resurrection of Jesus can be logically traced to certain prior beliefs that people bring to the evidence. The question therefore comes back with more urgency: Where do Bayesian priors come from? That is almost the same as asking: where do people's worldviews come from?

I think the sources of worldviews can be summed up in four overlapping categories: childhood, culture, coherence, and intuition. Coherence is the principal business of this chapter, and intuition, of chapter 6. But first, a few words on childhood and culture.

Concerning childhood, some of our biases, our propensities to believe one thing rather than another, were learned in childhood, so long ago that they may be unconscious. We can't trace all our beliefs to their origins because of a mysterious phenomenon sometimes called "the amnesia of childhood." We've long since forgotten the formation of our first beliefs, along with everything else that happened when we were babies or very young children. It's not simply the lapse of time, since adults' memories can go back for decades, while children are as unable as adults to remember when they learned that objects persist when not visible, things fall when dropped, we can move our hands and feet, Mama loves you, water ripples and splashes, pillows are soft, and so forth. Maybe we didn't learn some things at all, but just know them by instinct. How could we tell? The origin of our first beliefs is well hidden behind the curtain of the amnesia of childhood.

As for culture, we saw in chapter 2 how we can learn from others, and this gives rise to what we might call cultures, meaning groups that communicate frequently and to some extent trust each other, so that they to some extent share a collective worldview. Individuals can learn some things on their own, but knowledge is *usually* a social phenomenon, and the vast majority of what we know, we learn from other people. This process starts in infancy, and penetrates so deeply into our minds that even our most

private thoughts are usually expressed in the language we learned from society. For children, civilized societies organize education in order to make the process of transferring knowledge to the young more intentional and efficient, and so crucial is education to the acquisition of knowledge that "uneducated" is used almost as a synonym for "ignorant." Education in the West does not tend to produce cookie-cutter conformism, and adults end up believing a wide variety of different things, but our beliefs, like our clothes, were overwhelmingly learned from others, manufactured and purchased, so to speak, not homespun. In the modern West at least as much as in any primitive society, the vast majority of what people believe, they learned from others, and in general, to think for oneself thoroughly and exclusively is at least as impractical as walking off naked into the woods to live on berries and acorns.

The resurrection of Jesus is *not* an artifact of culture in this sense, and Westerners are not especially culturally predisposed to believe in it. In some ways, Westerners are actually especially predisposed to doubt the resurrection, because they tend to have a particularly strong belief in natural laws. But that people don't usually rise from the dead, and that people don't usually engage in spontaneous lying conspiracies with nothing to gain by it, are obvious to people of all cultures. The resurrection of Jesus presents a similar challenge from every cultural perspective, and pastors and missionaries find easy converts and stubborn unbelievers in every culture.

Childhood and culture are more or less unchosen, but my third determinant of worldviews, the quest for coherence, has more to do with individual effort and choice. We all try to be consistent, though some try much harder than others. We compare our beliefs one with another, see if they agree. This goes on involuntarily in our minds to a limited extent, but for some, and especially for philosophers, it is also a deliberate pursuit. Sometimes the generalizations we make based on experience contradict each other in ways that aren't immediately obvious. But logic must hold, and contradictory beliefs can't both be true. So when we discover inconsistencies, we must fix them somehow. Much of the content of our worldviews arises from this effort to compare and reconcile and harmonize overlapping generalizations in pursuit of consistency.

A homely example will illustrate.

Imagine a little girl who thinks that teachers are mean and grandmothers are nice. She also knows that some of her women teachers have

grandchildren. Do you see the problem? At first, she doesn't.

Then one day, she realizes, with a start of surprise, that her beliefs can't all be right. If some teachers are grandmothers, it cannot be the case that *all* teachers are mean and *all* grandmothers are nice. Some people are both teachers and grandmothers. From her simple perspective, they're either nice or mean. If they're nice, not all teachers are mean. If they're mean, not all grandmothers are nice.

This little girl has discovered that she is *inconsistent*. What should she do? What will she do?

We probably feel she should change her mind somehow to make her beliefs consistent. And she probably will. She may not even be able to help it. Then again, she might forget, falling back into her old beliefs and forgetting their inconsistency. Sometimes people are lazy-minded like that, and believe in inconsistent things through a kind of mental inertia.

If she does try to figure it out, a lot of new guesses could be framed. She might reject one belief or both, doubting that grandmothers are nice or teachers are mean. Or she might carve out ad hoc exceptions to save her belief system. Whatever candidate solutions she comes up with, she'll need to settle somehow what probabilities to attach to their being true. Evidence can help, but Bayesian priors are also needed. To guess how likely different possibilities are to be true, she'll probably look for analogies, which is a way of *drawing on her broader worldview* to help her solve a particular salient question.

If all goes well, she'll try to imagine herself in the teachers' shoes. What's it like to have a job, and responsibilities? What's it like to manage a crowd? What's it like to get interrupted while explaining something difficult and important? If she thinks along those lines, she might hit on the real reason why teachers are mean, at least from the perspective of a little girl inclined to fidget in class, and why grandmothers are nice. Teachers have to maintain order in a classroom, so they need to be pretty intolerant of noise and distractions that would be innocuous at home. Grandmothers, by contrast, usually have few disciplinary responsibilities, so they can indulge their affectionate impulses. This solution represents a big step up in nuance and subtlety and wisdom. If the little girl gets that far, she'll be a wiser and better and happier little girl. She would still love to get invitations to Grandma's house, but she would also behave well in class, not out of fear,

but out of sympathy for a teacher doing a hard job. Such are sometimes the rewards for the successful attainment of a more coherent worldview.

By contrast, just following the evidence doesn't do much to protect you from being inconsistent. That teachers are mean and grandmothers are nice are things the little girls doubtless knew, in a sense, by experience, from many scoldings, and many fresh baked cookies. But she was using the wrong generalizations to interpret her experience, and that happens to us all the time. Bayesian updating can lead you into inconsistencies, if you're using the wrong generalizations as candidates for Bayesian confirmation. So it's important, *in addition to* Bayesian rationalism, to engage in *critical reflection*. You should audit your beliefs for consistency, and then adjust, not just the confidence you invest in different theories, but the content of your theories themselves, the set of generalizations you treat as candidates for belief, in response to discovered inconsistency. Then you can test your new theories against old and new data.

In my undergraduate epistemology class, I learned about how the problem of justifying beliefs had sparked a long-running debate been two schools of thought called "foundationalists" and "coherentists." The problem that both schools of thought were trying to solve is that the justification of beliefs tends to become an "infinite regress," that is, an infinite series of follow-up questions that one can never put a stop to. If I believe that A, and you ask why, I might say, because B and C, but you can ask why on those, and if I answer, you can ask why on the reasons again, and so on, forever. The "foundationalists," such as I was then, as was Descartes (1596-1650) in his day, held that some beliefs are "foundational," just indubitably certain with no need for justification, and chains of justification should end in such beliefs. "Coherentists," by contrast, if I understood about them, held that chains of justification could end by circling back to where they began, and somehow this avoids being the fallacy of circular reasoning if only the chain is long enough, the belief system sufficiently comprehensive and coherent. That seemed silly.

Looking back, though, on that debate in light of this study of the quest for a coherent worldview, coherentism has a certain appeal. While I don't deny that there *are* foundational beliefs, such as the famous "I think, therefore I am" of Descartes, it's not clear that there are very many of them, or that much knowledge can be justified from them. The quest for coherence is a more important aspect of our thoughts, and a more important

contributor to the truth of our worldviews. But to say that any comprehensive, coherent worldview is true or justified, won't do. Evidence must have its say. But evidence doesn't just come in at the bottom, supplying foundational beliefs. It might come in at many different points in a belief system, confirming or challenging our beliefs. If we're forced to abandon a belief by contrary evidence, that's likely to damage the coherence of our worldviews, though we may not recognize it right away. Then we have to find ways to repair our worldviews, and in the process there may be far-reaching ripple effects, as beliefs not obviously related to the surprising evidence turn out to be implicated in generalizations on whose truth the surprising evidence casts doubt.

It seems clear that this quest for a coherent worldview is difficult. What techniques might enable individuals and cultures to be more successful in it? Habits of mind and conversation vary greatly, and some are much more conducive than others to the achievement of coherence. And at this point, we have an opportunity to better understand a feature of the Church that many find off-putting.

A basic distinction among conversations is agreement vs. disagreement. Sometimes a conversation is a succession of statements that support and build on each other. Each speaker believes the statements of the other and assumes that he is believed in turn. In other cases, speakers disagree, and the objective of the conversation is to "win the argument." In many cultures and social contexts, disagreement is taboo in varying degrees, and speakers are expected to express agreement. Disagreement tends to be unpleasant and give offense.

But the West, ancient and modern, has been distinctive in nothing more than in its love of disagreement and debate, and its conviction that "critical thinking" is the high road to truth. Two great characteristic Western practices, philosophy and democracy, exemplify this Western tendency to permit, encourage, honor and institutionalize disagreement.

In the city-states of the Greek peninsula, as they slowly come into the light of recorded history sometime in the first half of the first millennium BC, there was already great freedom of speech. It was needed, probably, for self-government amidst endemic warfare, in a mountainous terrain that favored very small polities. But whatever the reason, free speech and debate trained the Greeks to use words, explore concepts, and think critically in a way that no one had ever done before. It culminated in Athens, the world's

first democracy, in the 5th century BC, when the Greek intellect reached a kind of zenith. There, as we have seen, Socrates (470-399 BC) philosophized, questioning everyone and exposing their incoherence, and finally dying as a martyr to doubt and becoming a secular patron saint of free inquiry. Socrates supplied the model of inquiry for his disciple Plato (maybe 428-348 BC) in particular, who split himself into many personalities in order to pursue truth through writing dialogues. The West was born in a crucible of debate and argument.

It was typical of philosophers, as was mentioned before, to accept nothing on authority, to question everything, and to refine endlessly the art of critical thinking, leaving no assumption unchallenged and no stone unturned in the search for truth. Philosophy waned in the Roman Empire, though some philosophers found in the Christian Church the fulfillment of philosophy, the answer to all their questions. At any rate the societal collapse and scarcity of literacy in the Dark Ages cut the conversation short. Philosophy re-emerged in medieval universities, but in attenuated form, for it did not question everything as in ancient times, but deferred to the authority of the Church. Modern philosophy was born with Descartes, with all the ancient zeal to question everything.

Nowadays, not many people call themselves philosophers, yet most of the classic disciplines taught in the universities began as branches of philosophy. The typical pattern is that philosophers wander freely, asking questions, following the winds of inquiry wherever they blow, but sometimes they find some answers, and settle down to refine them, and thereby found a discipline. Thus Adam Smith (1723-1790) began as a moral philosopher, but honed a way of thinking that became economics and made Smith the first economist. In the same manner, the philosopher Auguste Comte (1798-1857) founded sociology, while natural sciences like physics and biology can trace their roots to Aristotle (384-322 BC). As these disciplines develop, they become more specialized, and usually a little more dogmatic, losing some of the spirit of philosophy. But they remember their debt to it and respect it, which is why there is nothing that the college-educated intelligentsia of today approves of so uncritically as critical thinking.

Democracy, too, was born in ancient times, lost in the Middle Ages, and re-emerged in modern times, and today is nearly universal in the West, where it is regarded almost as the touchstone of governmental legitimacy. It

is a form of government that relies on endless disagreement and debate to supply the party competition that is needed in order to conduct elections in which voters have choices. Of none of their institutions are Westerners, especially Americans, so eager to extol and insist on the virtues as democracy. In democracy, anyone may challenge authority, and democratic constitutions rely on people to do so, in order to hold rulers accountable, and ensure that if a large majority disapproves of the government, they have options for replacing it at the next election. Thus injustice is checked and revolution prevented. Government takes the form of a never-ending debate.

But the Church is not an academic seminar and not a democracy, and that, I think, is why some Westerners can't take it seriously. They are loyal to the Western tradition of questioning authority, and they have a deep, inarticulate conviction that critical thinking is the path of truth, and that an honest man has a duty to live his life as an endless debate.

The Church is an alien element in the West in one obvious way, for its Bible is a document of the ancient Middle East, full of its landscapes and peoples and history and thought-ways. More importantly, it is alien in that it is a community of agreement, where people are expected to defer to old doctrines and old explanations and old mysteries, where questions are sometimes tolerated but doubts are profoundly unwelcome, an island of dogma in a sea of critical thinking. We in the West, some feel, know better than to let our minds submit like that. We insist on the right, indeed on the duty, to disagree, and we trust no doctrine further than is warranted by its being continually tested in the arena of debate.

So a defense is needed of Christians' right to agree with each other.

Even if the road to truth were above all paved with disagreement and debate, the destination can't be like that. Inquiry must be able to arrive at some grand coherence of the truth. Inquiry is no more an end in itself than thirst, and inquiry ought, in the end, to be satisfied with truth as thirst is with water. When truth is gained by all, disagreement ceases.

And anyway, is debate really so conducive to the acquisition of truth?

Too much agreement has its dangers, to be sure. When two people agree, it's often a sign of trouble. One may be flattering the other for some advantage. Both may be flattering each other, forming a mutual admiration society, full of pride and exclusiveness. Two may agree in hating a third, and each hate him much more because of the other's encouragement. They may be dealing in platitudes so vague that they don't have enough meaning

to collide in contradiction with anything, even as they are evading important duties and urgent questions. People often need to be challenged to stay healthy, to encounter some disagreement to provoke them to clarify and refine their opinions. The West has some very good reasons for its love of debate, disagreement, and critical thinking.

And yet disagreement, too, has its dangers, its characteristic temptations to betray the truth. It tends to create an aristocracy of the articulate, and the articulate have their interests and their biases. It tends to steamroller subtle introspective truths. It can at times articulate too many distinctions, and miss larger, ineffable unities. These risks are least problematic with respect to things that are— forgive the jargon but this is important— *intersubjectively observable*, i.e., things many people can see in the same way, such as leaves and rocks and skies and birds and physical nature generally, but *not* thoughts and moods and feelings. This is because disagreements about intersubjectively observable things can be settled by experiments and facts, which limits how intractable and destructive they can become, how much they can corrupt minds through partisan passions and manipulative rhetoric. And so the secular West, with its passion for critical thinking, has become unusually wise about physical nature, but not so much about the ways of the human mind and heart and spirit.

The Church, by contrast, maintains its unique wisdom in spiritual matters by not particularly encouraging believers to doubt or criticize its own doctrines. It can't let the sanctuary become an arena of debate, for in a debate, the shy fall silent, but the Church wants to hear the wisdom of the meek as well as the cleverness of the eloquent. It thinks it has the most important truths already, and the purpose of inquiry should be to better understand those great truths, or perhaps to learn about lesser matters on which doctrine has not ruled. If inquiry of the kind that doubts everything breaks out in the heart of the Church, it can at best lead back to it by a long and difficult road, and is likely to lead out of truth into incorrigible error. The Church will debate at need, but it prefers a freely given faith. In this respect, the Church follows the example of Jesus, who was willing to debate with hostile scribes and Pharisees, and who took time patiently to instruct the friendly but skeptical Nicodemus, but who approved most warmly of those who believed in Him swiftly and wholeheartedly, without laborious persuasion.

That the Church is a community of agreement explains some features of the Church that are often misunderstood.

Almost all Christians today understand that the violent persecution of heretics by medieval inquisitors was desperately wicked and unChristian. Faith must be free. But modernity objects not so much to the persecution of heretics as to the concept of heresy. It often speaks as if even the peaceful expulsion of heretics were intolerably intolerant. Why shouldn't churches permit dissent and disagreement as freely as academic seminar rooms do (at least in theory)? But academics are trained to hold their own in a debate, and they go to the seminar expecting to hear views they disagree with. People go to church expecting to agree with everything they hear. They are not on their guard. And many churchgoers are unsophisticated, intellectually untrained people who couldn't doubt or debate false doctrines even if they were on high alert. So if error penetrates the sanctuary, it can propagate dangerously fast and become terribly deep and stubborn, alienating people from the truth and dividing the Christian community. That's why the Church has often responded with great energy and intolerance to what seem to outsiders like arcane disagreements over fine points.

Even more importantly, the peculiar status of the Bible in Christian churches must be understood in light of their character as communities of agreement. Christians sometimes say that the Bible is inerrant, in the sense of being free of errors. But it isn't. It contains many errors, such as the speeches of Job's friends when they come to accuse him of sin. Inerrancy is a desideratum fit only for multiplication tables and train schedules, texts full of mere facts where all words mean in the same simple way. The Bible, by contrast, is divinely wise, and it fits infinite wisdom into a finite text by being a rich tapestry of genres and perspectives that mean in different ways and are often in tension with each other. "Proof texting," the silly practice of taking random biblical phrases out of context to settle arguments, is a disease of the ignorant.

And yet it's true that Christians never quote the Bible to disagree with it. And when the Bible is quoted in church, churchgoers expect to receive the passage as true. The Bible must be quoted carefully to warrant such treatment. Above all, the use and interpretation of the Bible must be guided by Church traditions. Wise Christians use the Bible in ways that strengthen the church as a community of agreement in possession of great and joyous

truth, reaffirming and elucidating the grand coherence of Christianity. That the Bible lends itself so well to such use reflects its peculiar divine origins as the Word of God, but Christians who try to use the Bible like a train schedule, a compilation of facts that saves them the trouble of thinking for themselves, go far astray. The Bible is not a book that saves anyone the trouble of thinking. On the contrary, it is the most thought provoking book in the world.

For the Christian Church has its own manner of critical thinking, which overlaps that of Western philosophy, but has a different emphasis. The philosopher criticizes theories about the world, and looks with cheerful curiosity into the natures of things. But the Christian criticizes himself, and looks with scrupulous dread into his own conduct and motives and feelings, to see how he has sinned and fallen short and offended God. Christians have certainly been prone to the perils of too much agreement, of complacency and pride. Christian churches have often been the friends of oppressive rulers, and acquiesced in unjust institutions. But that only happens when Christians are lax in their Christianity. Always the Bible lies in wait, ready to shatter all complacency, to challenge the powerful with ideals so perfect that all fall short, and threaten sinners in high places with the torments of Hell. And so Christendom has ever been haunted by the challenge of the faith, driven on to evolutions and revolutions towards freedom and justice and mercy, as Christian sovereigns and subjects alike seek to save their souls. Christianity urges each Christian believer to disagree, not with Christianity or other Christians, but with his own conduct and feeling and thought, inasmuch as it betrays the sublime and perfect standard which Christianity teaches.

To sum up this chapter, people ought to have a coherent worldview, free of inconsistencies and self-contradictions. It’s a matter of basic honesty at least to try to do this. Someone who is lazily indifferent to his own inconsistency, ready to say now one thing and now another on the same question as fancy or interest dictates, doesn’t deserve for his opinions to be taken seriously. And yet people have great difficulty achieving such coherence on their own. Unless they are great geniuses, they need the help of some culture or school of thought to harmonize their beliefs into a coherent system. In the West today, and indeed throughout the world to some extent since the Western intellect has long been so dominant worldwide, there are two belief systems on offer that make serious bids for

coherence, comprehensiveness, and truth: Christianity of an orthodox and traditionalist sort; and scientific materialism, the reductionist worldview that explains everything that exists scientifically, in terms of matter and energy governed by natural laws. The rest of the book will focus on these two candidates for grand coherence, showing why scientific materialism fails, and why Christianity succeeds.

But most people, as far as I can tell, subscribe to neither worldview. Instead, they have a mix-and-match personal worldview composed of ideas they picked up at random that happened to appeal to them. My casual impression that most people, aside from orthodox Christians and austere scientific materialists, are rather muddle-headed and full of irresponsible, groundless opinions that wouldn't stand up to scrutiny, is surely not worth much. It would take much labor by a modern-day Socrates to interrogate people and expose their inconsistencies with questions that lead them into open self-contradiction. And yet I've seen recent polls that make the point rather efficiently. Some recent polls show that three-fourths of Americans believe in God, and that the Bible is the Word of God. Other polls show that three-fifths of Americans believe that premarital sex isn't wrong at all. It follows mathematically that at least one-third or so of Americans hold both of these beliefs. And since the Bible clearly, consistently, and emphatically condemns premarital sex, these Americans are inconsistent. I think this is only the tip of the inconsistency iceberg. At any rate, it suffices to prove that inconsistency is a problem.

The resurrection of Jesus helps to clarify the difference. It happened, or it didn't. It's a physical fact, or not. There is no ambiguity about what it means. If it happened, then scientific materialism is wrong. If it didn't happen, then Christianity is wrong. So there's no use treating both Christianity and scientific materialism as having some intellectual authority and trying to find a compromise. One of them at most is true. Of course, Christians can learn from science, and scientific materialists can like Jesus's ethics, but that doesn't change the fact that these are irreconcilable worldviews that see the ultimate nature of things completely differently. You can't have one foot in both. You have to choose between them, or perhaps try to reject them both and be a genuine freethinker, discerning everything for yourself. But you'll probably have difficulty achieving a coherent worldview if you try to go it alone like that.

It's difficult to organize a book. I've set myself three tasks in this book: first, to craft a workable theory of knowledge; second, to apply it to scientific materialism and show why it fails; and third, to put Christianity to the same test and show why it succeeds. But while reading is a linear process, left to right, line after line, page after page, ideas are connected in more complicated ways, forcing an author like me to skip and double back. Instead of closing the epistemological stage of the argument before venturing into the scientific, we'll have to begin our inquiry into the history of science before we can complete our theory of knowledge. And so chapters 5 and 6 represent a kind of overlap between Part I, on epistemology, and Part II, about science.

One way to put it is that the epistemological ship we've been building needs to be tested, in chapter 5, on a pilot voyage through the early history of modern science. We'll learn a good deal on the voyage, but we'll also find out why the vessel is not yet seaworthy. Then, in chapter 6, we'll haul the ship back into port for repairs and upgrades, after which our apologetic voyage can begin in earnest.

Chapter 5: The Feedback Loop Between Worldviews and Evidence

If I had to coin a name for the epistemology we arrived at in chapter 3, I might call it “evidence-constrained coherentism,” but I don’t really want to name it. At least, I’d just as soon have readers forget the name as soon as they finish this chapter. A name might suggest that we are talking about a special kind of thought and knowledge, when really we are talking about just plain old thought and knowledge in general. We are dealing with matters so general that naming them would be the business of specialists, and I am not a specialist. In a wise joke, one fish comments on how nice the water is today, to which another fish replies, “What’s water?” In the same way, evidence-constrained coherentism is so normal that it doesn’t need a name.

But as a fish with no name for water in general might want words for particular *kinds* of water, like muddy or hot or running, so I think natural language furnishes us with words for different *kinds* of evidence-constrained coherentism, such as (a) common sense, (b) the dogmas of the Church, sufficiently discussed in the last chapter as a style of learning and thinking and knowing, and (c) science and the scientific method, of which it is the business of this chapter to discuss the character and origins. But first, by way of comparison, let’s talk a little about common sense.

Common sense must, above all, settle most to all practically relevant questions somehow. To focus on this, it ignores impractical and speculative questions, or questions that go beyond everyday experience to cover strange or remote contingencies. It mostly believes what it hears, but can be skeptical when it hears things that go against intuition and/or experience. Standards of evidence are low in a way: people may accept and internalize claims as common sense rather uncritically. At the same time, there is resistance to novelty, reliance on intuition, and a repeated turning to collective judgment that makes it hard for new, untested claims to pass for common sense. People try not to accept things as common sense unless they think that they or others have lots of relevant experience supporting them. Common sense beliefs are promiscuously traded among people through casual conversation, so common sense is inhospitable to precision and exactitude, and to anything that has to be articulated carefully and at length.

It has a preference for proverbs, that is, for short, pithy, memorable statements that can circulate easily.

Coherence in the common sense domain is a rough and unrigorous affair. You can disagree with a proverb, but if two proverbs seem to have logically inconsistent ramifications sometimes— maybe “the squeaky wheel gets the grease” vs. “no good deed goes unrewarded”— then maybe you just don’t have the wisdom to use those proverbs right. Common sense can involve a lot of discernment, but it doesn’t encourage the refinement of critical thinking and careful logic. And while it highly values experience, especially the ordinary experiences of everyday life, individual and collective, it doesn’t encourage formal theory testing. It imputes a lot of authority to an inherited stock of wisdom, but regards that wisdom as partially inarticulate, with proverbs to signpost it rather than to fully explain it. Your own experience and other people’s stories help you understand what the proverbs mean.

Science, by contrast, distinguishes itself by precise statement of hypotheses and exact measurements, and is an elite affair, listening to experts rather than ordinary people. It studies, first and foremost, that which is perceptible to our senses, that which can be seen, heard, smelled, tasted and touched. At a more advanced stage, it deals with many things that are not directly, in themselves, in the normal course of things, sensorily perceptible, such as biological cells, atoms, electric and magnetic fields, or the centers of the earth and the sun, but it makes them accessible to the senses through special media, such as microscopes, or deduces their existence by reasoning from sensory experiences, as interpreted with the help of hypotheses about natural laws. In short, science studies matter.

Only at an advanced stage, when it aspires to become a total theory of the world, does science begin to deal in mental phenomena internal to human beings, such as moods or morals, which are not intersubjectively observable. When it does so, it has to depart somewhat from characteristically scientific habits of thought such as precise statement of hypotheses and exact measurement and rigorous theory testing followed by rapid abandonment of theories in the event of predictive failure. That’s why psychology and sociology feel less “scientific” to most people than natural sciences like chemistry and physics, and lack their authority. Worse, “scientific” studies of human phenomena like the mind and society sometimes introduce an unwarranted assumption that they are still studying

mere matter, and human beings are reducible to atoms and energy, simply because the scientific materialist ideology requires it, even though that assumption rarely if ever contributes to the genesis of successful hypotheses. In English, there is a narrower natural language meaning of the word “science” that restricts the term to the natural sciences and ignores the social and human “sciences.” I prefer that usage.

Science, i.e., natural science, deals in what is intersubjectively observable, and consequently it is often able to efficiently establish consensus through proof, so it doesn’t need to silence debate by fostering a culture of deference and agreement. On the contrary, it can often afford to encourage maximum critical thinking and questioning of authority, the better to incentivize participants to design experiments that will settle disputed questions once and for all. Science is *not* a take-it-or-leave-it affair. It is always learning, always open, in principle, to challenge, and stands ready, at its best, to take all comers, to answer all critics, to refute all skeptics, or if it fails to do so, gracefully and gratefully to change its mind.

A historical example will help to illustrate the character of modern science, while also showing more or less how it began. Along the way, I’ll show how the birth of the Scientific Revolution exemplifies the kind of Bayesian rationality I’ve been describing.

Throughout the Middle Ages, a model of the cosmos prevailed according to which the earth was at the center, or we might say the bottom, for “down” meant “towards the earth,” of the universe, uniquely prone to chaos and decay and sin. That sad state of affairs reigned up to the orbit of the moon, in the “sublunary” part of the cosmos. Beyond the moon, it was different. All was perfection and light up there, among the heavenly bodies, which moved in a sublimely orderly manner described by the ancient Ptolemaic system, compiled by the astronomer Claudius Ptolemy (c. 100-170 AD). This cosmology was imaginatively brought to life in the *Paradiso* of Dante Alighieri (c. 1265-1321). C.S. Lewis (1898-1963) explained the medieval model of the cosmos, along with its origins and history, in his book *The Discarded Image*.

The medieval cosmology owed as much to Greek philosophy as to the Bible. It is certainly not biblically mandated. It even retained traces of Greek mythology, with the planets having their own spheres in a cosmic hierarchy and retaining some of the character of the pagan gods they had been identified with. Nonetheless, it was felt to harmonize with Christian

theology. The doctrine of the Fall, for example, was physically inscribed into the form of the cosmos, with fallen nature below the moon, sinless immortality above it.

But in late medieval and early modern times, the old model began to sustain a number of blows. First, improved observation of the heavens even with the naked eye started to reveal that the movements of the heavenly bodies didn't perfectly fit the Ptolemaic model. Astronomers kept refining the Ptolemaic system in ways that made it fit the facts better, but also made it more complicated. Eventually, Copernicus (1473-1543) showed how the movements of the heavenly bodies could be explained more neatly and accurately if you start from the assumption that the sun, not the earth, was at the center of the universe. So a long contest between the “heliocentric,” or sun-centered, and the “geocentric,” or earth-centered, cosmologies began.

Then the telescope appeared, with Galileo (1564-1642) as the recognized inventor though he had forerunners, and it became possible to look at the heavenly bodies as if up close. And it turned out that they were not perfect at all, as had long been assumed, but had bumpy, irregular surfaces! That's not directly relevant to the heliocentric vs. geocentric debate, but it's indirectly relevant in a very important way. For the medieval cosmology had posited a major discontinuity at the orbit of the moon, and that makes more sense if the earth and the sublunary realm are spatially distinct. Place the sun at the center, and make the earth and planets its satellites, and it becomes very odd, to the point of implausibility, that the earth is governed by different rules, such that its tendency to chaos and decay and sin are unique.

Before the telescope, the distinction between sublunary chaos and celestial perfection seemed empirical. The sun, moon and stars seemed to display a sublime perfection in their movements and forms that couldn't be found on earth. But when the telescope revealed irregular surfaces on the planets, it became more plausible that a single system of uniform laws governed the whole cosmos, including the heavens, and astronomers and physicists began to work out what those laws were, culminating in the cosmic system of Isaac Newton with his laws of motion and gravitation. Along the way, unfortunately, Galileo got in trouble with the Catholic Church, and was famously interrogated by the Inquisition, forced to recant from his embrace of Copernicus’s heliocentric universe, and placed under

house arrest for the rest of his life, becoming Exhibit A in the supposed war of science and religion, which is why the episode is famous.

Let's try to make sense of this history using evidence-constrained coherentism.

Let proposition A be: “The universe is spatially divided into a celestial realm, where perfection and good order and eternal life reign, and a sublunary realm, where things are ever pulled downwards, and good order is perpetually being eaten away by chaos, decay and death.”

In the Middle Ages, people had high confidence in A. The evidence they could see was constantly confirming it. In the heavens, they saw a sun and moon perfectly round, and the stars and planets following their courses with perfect reliability. On earth, things were always rather unpredictable. The best laid plans went oft awry. And all living things died in due course, living order giving way to rotting chaos. Dropped things fall on earth, but the stars don't fall.

But how perfectly did the stars follow their courses, really? That depends on what those courses were. To be explicable and predictable, they must follow rules of some sort. But what were the rules? The rules of the Ptolemaic system kept turning out to be subtly wrong. And then the rules of the Copernican system turned out to be right. The planets move *as if* they are orbiting the sun. At the practical level, that's the best way to predict their positions, for purposes of navigation, say, or calendar design. So let's formulate that into a theory.

Let proposition B be: “The planets, including the Earth, orbit around the sun.”

Proposition B was suggested by astronomical evidence and is continually confirmed by it. But now we have a problem, because propositions A and B are apparently inconsistent. If the earth is orbiting around the sun, there can be no spatial division of the universe into celestial and sublunary. One solution is to deny A. But that leaves all sorts of phenomena desperately unexplained. If there is no celestial vs. sublunary partition of the universe, why don't the stars fall the way dropped objects do on earth? Why doesn't the earth fall into the sun? Why don't the stars exhibit irregular and chaotic conduct the way things always seem to do on earth? Why don't heavenly bodies have imperfect, accidental shapes, like things on earth? Why does the earth keep moving around the sun, not slow down and stop like moving things do in our experience? The best way to

save all sorts of commonsense knowledge would be to deny B, conceding at most that the planets *seem* to move around a stationary sun. So let's reformulate it that way.

Let proposition B' be "The planets move *as if* they, and the Earth, orbit around the sun."

Now we can set up the world's response to Copernicus's discovery as a Bayesian updating event.

Let's assume that by 1550 or so, B' is an established fact, which people have to come to terms with. They must therefore update their confidence in the medieval cosmology from some P(A), their prior belief, to P(A|B'), a new belief adopted in light of the Copernican movements of the planets.

To apply Bayes' Law, they also need some value for P(B'|A) and P(B'|~A). P(B'|A) is the probability that the planets would seem to move as if they orbited the sun, if the medieval cosmology were true and they actually orbited the earth. A low value seems appropriate, say 5%. P(B'|~A) is the probability that the planets would seem to orbit the sun if the medieval cosmology is false. It's not clear how to assign that, so let's call it 50%.

If P(A) is 80%, P(A|B') is 80%*5% / (80%*5%+20%*50%) = 28.6%.

But if P(A) is 99%, P(A|B') is 99%*5% / (99%*5%+1%*50%) = 90.8%

This shows why, if two believers in the medieval cosmology, one tentative and one staunch, encountered Copernicus's discoveries, the tentative one might be convinced of heliocentrism, and abandon the medieval cosmology, while the staunch one would remain convinced of the medieval model. The differences in this example comes from subtle differences in their prior state of confidence in the medieval cosmology. It could also come from different feelings about just how unlikely it would be for planets in a geocentric world to move in a seemingly heliocentric way. One way to put it is that people might vary in how *impressed* they were by the *pattern* that Copernicus saw.

Those who abandoned the medieval cosmology at this stage would have found themselves lacking a coherent worldview. Without the celestial vs. sublunary partition of the universe, they would have no idea why the stars kept moving, or why they didn't fall. And the heliocentric theory's claim that the earth was moving rapidly through space must have struck many as wildly counterfactual. Why don't we feel the movement then? Why is there no permanent wind? Why do dropped objects fall straight down instead of

the earth moving under them as they fall? Until Isaac Newton (1643-1727) formulated his laws of gravity and motion, these questions lacked good answers. Some might be induced by critical reflection to return to the medieval cosmology as they contemplate all the bewildering ramifications of abandoning it.

For the next stage in this history, let proposition C be: “The heavenly bodies have imperfect, irregular surfaces like the earth.”

A historian of science could say more than I can about whether proposition C was articulated frequently or at length before Galileo’s telescope. But it would surprise me if it was. Often, many of the implications of a worldview or theory remain largely tacit, until surprising evidence prompts people to articulate what they always thought but rarely said. But it’s my impression that P(C|A) would have been low, say 1%, for believers in the medieval cosmology. Let P(C|~A) be 50% for the sake of argument. Then, when Galileo’s telescope reveals the irregular surfaces of the planets, the following Bayesian updating event might occur.

P(A|C) = 90%*1% / (90%*1% + 10%*50%) = 15.2%

In this case, a rather strong believer in the medieval cosmology, who had considered it 90% likely to be true, would be persuaded to abandon it by what the telescope revealed. The surprise of irregular planetary surfaces would disrupt the old tales of celestial perfection and weaken the whole cosmology.

But we want to understand, in Bayesian terms, how the discovery planetary imperfections affected belief in heliocentrism, and for that, we'll need to reformulate some of our propositions, because Propositions A and B, the medieval cosmology and Copernican heliocentrism, seem logically *incompatible*, since part of the medieval cosmology *is* the spatial centrality of the earth in the universe. Yet people were able to entertain heliocentric theories and evidence when the medieval cosmology was still prevalent. To understand how, it will be helpful to articulate some proposition A’ could be defined, which preserves the part of the medieval cosmology that isn’t directly contradictory to heliocentrism, while being agnostic about geocentrism vs. heliocentrism. It might look something like this:

Proposition A’: “The universe is divided, though not necessarily in a persistent spatial way, into a celestial realm, where perfection and good order and eternal life reign, and a sublunary realm, where things are ever

pulled downwards, and good order is perpetually being eaten away by chaos, decay and death."

Such clumsy reformulations are often resorted to in order to keep alive a theory that people still rely on to understand the world, even though it has sustained some damage from adverse evidence. Logically, P(A'|A) is 100%, since A' consists in a subset of the content of A, so A logically implies A', but not vice versa. Evidence that would defeat A need not defeat A'. Yet A' is less coherent and intuitively appealing than A, since it seems odd that a celestial vs. sublunary division of the cosmos is maintained if is not persistently spatial.

Thanks to the reformulation, P(B|~A') (as a reminder, Proposition B still refers to the claim that the planets, including the Earth, orbit the sun) need not be zero. Heliocentrism and this reformulated version of medieval cosmology could both be true. But it seems unlikely because they are still a very odd fit. By contrast, if A' is abandoned, and the belief that the universe is divided into celestial and sublunary is given up, then heliocentrism has a pleasing simplicity.

How, in this case, would the evidence of planetary imperfections from Galileo's telescope affect belief in heliocentrism? We can think of it as a two-step Bayesian updating process.

The first step would be to update on A' given C. We can characterize the surprise that Galileo and his contemporaries must have felt upon seeing, or hearing about, the imperfections in the heavenly bodies, by saying that P(C|A'), or the likelihood that there would be imperfections in the heavenly bodies given the prevailing belief in a celestial vs. sublunary distinction, was very low, say 0.1%. By contrast, only simplify the universe into a more continuous place comprehensively governed by a consistent set of natural laws, and imperfections in the planetary bodies would seem very probable. In other words, P(C|~A') is high, say 95%.

So when an age in which the old medieval cosmology still held a certain grip on European minds, so that prior belief P(A') in the celestial vs. sublunary distinction, though not measurable, must have been fairly high, the revelations of the telescope triggered a major Bayesian updating event for those clever enough to think things through. Given P(A') of 80%:

P(A'|C) = P(C|A')P(A')/(P(C|A')*P(A')+P(C|~A')*P(~A')) = 0.1%*80% / (0.1%*80% + 95%*20%) = 0.41%

In words, planetary imperfections were so unlikely in a universe divided into celestial and sublunary, and so likely in a universe leaving such a division, that telescope evidence decisively dispelled the medieval cosmology.

The next step is to update belief in heliocentrism on the new disbelief in the celestial vs. sublunary distinction, i.e. to determine P(B|~A'). We're interested in people still unconvinced, prior to the revelation of planetary imperfections by the telescope, by the well-known successes of Copernican heliocentrism in explaining the movements of heavenly bodies. So prior belief in heliocentrism P(B), despite some favorable updating, would still be low enough to indicate nonbelief, e.g., 20%. We also need prior beliefs for P(~A'|B), the prior odds of there being a celestial vs. sublunary cosmic division under heliocentrism, which should be relatively low because it's so odd, e.g. 10%, and P(~A'|~B), the prior odds of there being a celestial vs. sublunary cosmic division without heliocentrism, which should be higher, e.g., 90%. When the telescope evidence refutes the medieval cosmology, the following Bayesian updating event occurs:

P(B|~A') = P(~A'|B)P(B)/(P(~A'|B)P(B)+P(~A'|~B)P(~B)) = 90%*20% / (90%*20% + 10%*80%)=69%

In words, before the telescope, the continuing persuasive force of the medieval cosmology weighed against Copernican heliocentrism because heliocentrism fit very awkwardly at best with a long-standing distinction between celestial and sublunary realms that seemed to be very helpful in explaining the world. When the telescope revealed the imperfection of heavenly bodies, it was evidence against the celestial vs. sublunary division of the universe, and thereby removed a major objection to the Copernican solar system, preparing the way for its acceptance. Here we glimpse the feedback loop between worldview and evidence. Our worldviews shape what evidence we find credible, and how we interpret our observations. But evidence, in its turn, affects what worldviews we invest our belief in, sometimes in very dramatic ways.

In great confrontation between Galileo and the Inquisition, the biblical warrant provided by the Inquisition for its view was extremely flimsy. That they had to quote Psalm 104:5, which in a poetic flight of praise for God and His world remarks that God has set the earth on its foundations and it “shall not be moved,” is a reminder of how little the medieval cosmology owed to scripture from the beginning. The real evidence for geocentrism

was empirical. Of course the earth is stationary! Look at it! The Inquisition demanded that Galileo supply *evidence* for his extraordinary claims. Lacking it, they thought, he shouldn't have written it so confidently, implying a knowledge he didn't possess.

But what did they mean by evidence? A good theorist can carry inference from evidence very far. The evidence for heliocentrism was that the observed orbits of the planets conformed to what they would be if they and the earth orbit the sun, and also, that the irregular surfaces of other planets disproved the medieval cosmology and pointed to uniform natural laws extending beyond the sublunary into the celestial realm. For a genius like Galileo, that was enough, even if the lumbering minds of old clerics couldn't attain such flights of insight.

Eventually, Isaac Newton completed the Copernican revolution with his great laws of motion and gravity. The claim in Newton's first law of motion that an object in motion stays in motion unless acted upon is, *prima facie*, contradicted by all human experience. We see things in motion always slowing down and stopping unless some force keeps moving them. Only in the heavens do we see things like planets and comets and moons persist in a changeless motion. Newton saw that the heavenly pattern expresses the law, while earthly experience is a special case affected by air resistance and friction but not contradicting the law. Newton's service to astronomy lay not in observation but in supplying a unifying theory that explained with a swift simplicity all the many observed phenomena. But he did more, for he also unified the physics of heaven with the physics of earth, thus achieving a dazzling grand coherence for the laws of nature and the order of the universe. Copernicus and Galileo left much to be explained. Newton explained it. They posed a riddle that Newton answered.

Today, the Darwinian revolution in biology is often compared to the Copernican revolution in cosmology. Certainly, there are resemblances. Both are audacious simplifications of the world. Both disrupted a previously existing worldview that was more comprehensive, in terms of the range of experiences of which it gave some account or explanation, than what they offered in its place. Thus, Copernicus said the earth was moving, but didn't explain how it could then seem stationary. Likewise, Darwinism says people evolved from particles, but doesn't explain how then they can have consciousness. Copernicus and Darwin both challenged forms of exceptionalism, Copernicus, an exceptionalism of the earth, Darwin, an

exceptionalism of life and of man, in favor of more fundamental and universal principles. Galileo's telescope eventually provided empirical evidence against the exceptionalism of earth that Copernicus challenged, and thereby supported him, and Newton finally articulated the laws that explained and unified the Copernican cosmos. But the Darwinian revolution has never had its Galileo or its Newton. Human exceptionalism remains as empirically robust as ever, and Darwinism has never explained consciousness. We will see in the following chapters why it never can. Not all simplifications of the world are true.

We could apply this kind of analysis to many episodes in intellectual history. Like the way the careful analysis of combustion by 18th-century chemists detached the identification of chemical elements from the traditional, intuitive categories of air, fire, earth and water, and led to the proliferation of newly-identified elements that were eventually organized into the periodic table of Dmitri Mendeleev (1834-1907). Or the way an experiment by Albert Michelson (1852-1931) and Edward Morley (1838-1923) disproved the existence of ether and forced a crisis on physics that was resolved only with the theory of relativity of Albert Einstein (1879-1955). Or the way Adam Smith (1723-1790) discerned new kinds of order in economic life and wrote them down in *The Wealth of Nations*, persuading the world of the beneficence of competitive market equilibrium, and laying the foundations of classical economics and of the 19th-century golden age of *laissez-faire* capitalism. Or the way classical economics, after a long though far from unchallenged hegemony, was dramatically discredited by the Great Depression, paving the way for John Maynard Keynes' (1883-1946) prescriptions for macroeconomic management in a social democracy, and also for the rapid advance of communism and fascism. Or the way the theory of evolution of Charles Darwin (1809-1882) revealed a persuasive alternative to Aristotelian teleology for understanding apparent purpose in the biological world. And so forth.

In all these historical episodes, there are two recurring causes of change. First, there are surprising events or discoveries, new evidence that defies expectations and discredits old ways of thinking. Like Galileo's telescope, and what it revealed about the planets. Second, there are theoretical triumphs that fit disparate known facts into newly discerned patterns. Like Copernicus's heliocentrism and Newton's laws of gravitation. Other great theorists on the order of Isaac Newton were Adam Smith, Charles Darwin

and Albert Einstein. Sometimes the great discoverers were also great theorists, like Lavoisier (1743-1794). Other great discoveries were accidental, as when astronomers Arno Penzias (1933-) and Robert Wilson (1914-2000), in 1965, found something interfering with their radio wave experiments that turned out to be, not pigeon droppings as they first thought, but rather, the cosmic background radiation predicted by Big Bang theory, thus settling the question of the origins of the universe!

It's all part of the great feedback loop between worldview and evidence. Our minds are constantly being flooded with experiences, mental and sensory, many or most of which are evidence of nothing and leave no impression, because they are uninterpreted and irrelevant. But some experiences relate to theories that we have about the world, sometimes supporting and confirming and illustrating and exemplifying them, sometimes challenging or contradicting them. It takes a worldview to give evidential significance to experience. Often our worldview helps us interpret experience. It makes things matter. It makes us notice things. The way we characterize and remember things is shaped by our worldview. But then experience, in turn, shapes our worldview, reinforcing some beliefs and undermining others. Our worldviews are also shaped by critical reflection, and sometimes we are forced to change our minds because we notice contradictions among our beliefs. Failures of coherence may occur because experience has forced us to update some of our beliefs, in ways that disrupt the logical harmony of our belief system as a whole. When we have to reformulate our generalizations in order to restore consistency, this should leave us somewhat less confident in them, though it helps somewhat if we remember enough past data to test them on it. But new theories should heighten our curiosity to test some of the new predictions that our new theories make. As we learn and grow like this, less of our experience is left uninterpreted and irrelevant. More and more things make sense. All of these patterns apply to cultures as much as or more than to individuals. Individual people all do some independent learning, but pick up most of what they know from the culture. On the stage of whole cultures as well as in the minds of individuals, the feedback loop between worldview and evidence is played out.

But while we have been enthusing over the way science advances by discovering contradictions and reformulating theories, our epistemological ship has sprung a leak. For it turns out that the scientific method we've been

extolling invites disastrous misapplication. In the next chapter, we'll see why, without some way of disciplining what theories may be treated as legitimate candidates for Bayesian confirmation, the feedback Ioop between worldview and evidence can be manipulated to prove anything, and what can be done about it.

Chapter 6: The Grue Problem, the Reality of Ideas, and the Meaning of Knowledge

Here's the problem: the assimilation of evidence and the pursuit of a coherent worldview sometimes require changing your theories. But if you're allowed to change your theories at will, you may never learn anything, because there's always an infinite array of possible theories, and you'll just bounce around among them, without accumulating sufficient evidence to believe in any.

A silly example will illustrate the point most easily.

Suppose your friend Coinflip Theorist has a notion that anytime you flip a coin, it comes up heads. You figure it shouldn't be hard to dissuade him. You flip a coin a couple of times, and get tails. He's shocked. But he soon recovers. He knows there's a feedback loop between worldview and evidence, and that the pursuit of a coherent worldview often requires readjustment of one's theories. So he says, "Thanks for enlightening me, friend! I was wrong to think that all coin flips come up heads. Now I know that all coin flips come up heads, *except that one*." You sigh, flip a couple more times, and get tails. Again he revises his theory, this time assuming two exceptions rather than one. No matter how many times you flip and get tails, he still expects all future coin flips to turn up heads.

Why exactly is Coinflip Theorist wrong?

Here's another example, almost as silly but much more famous. It's adapted from the philosopher Nelson Goodman. Two people, call them Commonsense and Contrarian, are conversing.

"Grass is green," says Commonsense.

"No, grass is grue," says Contrarian.

"What's grue?" asks Commonsense.

"Well, you might best understand it by saying it means green until October 11, 2049, and blue thereafter."

"So you think all the grass is suddenly going to turn blue once and for all on October 12, 2049?!" asks Commonsense incredulously.

"You can put it that way if you like," says Contrarian. "I, of course, would rather say that the grass will continue to be grue."

"But why," asks Commonsense, "would you expect the grass to all turn blue, or remain grue as you put it, on that particular day?"

“I expect it by simple induction,” explains Contrarian. “Grass has always been grue, so I expect it to stay grue. Of course, it might not. I can’t rule out the possibility that all the grass will suddenly turn bleen on October 12, 2049. But I have no reason to think that’s likely. My default assumption is that current patterns will persist, and grass will be just as grue on October 12, 2049 as it is today.”

Now, if Contrarian is not refuted somehow, the consequences for science are catastrophic. Every scientific theory predicts the future from the past by extrapolating from patterns. If the terms and concepts comprising the patterns can be arbitrarily redefined, then a limitless range of future patterns can be forecast from any past data. That means that science can’t settle anything. Any prediction is as good as any other.

If Commonsense thinks that oranges are round, nothing’s to stop Contrarian from thinking they are “squound,” meaning “either square or round.” Contrarian might advise Commonsense, when shopping for oranges, to choose square ones, because they stack and aren’t prone to rolling. Commonsense would object that there are no square oranges. “Oh really? Well, you might be right. All I’ve noticed about the shape of oranges is that they’re always squound.”

Contrarian might warn against hiking in a particular forest, because of dangerous beasts. Commonsense, surprised, asks what kind of dangerous beasts. “When I was there,” says Contrarian, “I saw lots of liobits— you know, what some people call ‘either lions or rabbits.’ And some liobits will bite your arm off.”

To reframe the grue problem in Bayesian terms will help us achieve maximum clarity. Let A be the proposition that emeralds are green. Let B be the proposition that emeralds are grue. (I used grass at first to highlight the everyday relevance of the grue problem, but of course grass is sometimes yellow or brown. Emeralds, which Goodman used, are actually a better example, since they’re always green.) Let E1, E2, E3, etc. be observations of emeralds, which are green and also grue, since at the time of writing, October 12, 2049, or let’s say, “time T,” is in the future. If we are initially uncertain about emeralds, P(A) and P(B) might initially be 50% or less. But P(E1|A) and P(E1|B) will be higher than P(E1|~A) and P(E1|~B), so observing green emerald E1 will increase Bayesian confidence in A and B, as will E2, E3, etc., until the subject is highly confident in both A and B.

The problem is that A and B are logically incompatible, since they make opposite predictions after time T.

So far, Bayesian rationality has been no help at all. Or rather, it has only clarified the problem. It has done nothing to solve it. In general, logic can't help us here.

It is the skeptic's revenge. This is why philosophers know, as ordinary people don't, that the abstract skeptic is a formidable opponent. In the grue problem, the old induction skeptic of David Hume comes back in new guise. Goodman knew this well enough. He called his puzzle "the new problem of induction," alluding to Hume's original problem of induction. If some escape from it is not found, all natural science and all common sense stands refuted, and we can't so much as get out of bed in the morning, because the floor might be, not solid, but solpit, meaning solid until yesterday, a bottomless pit masked by an illusory floor mirage, today. Oops! Noooooooo!

Here's an example of the grue problem that is not silly at all, to show how high the stakes are.

Here comes Commonsense again, stating the obvious. "All men are mortal," he says.

But this time his interlocutor's name is Christian. "No," says Christian. "All men are mortal-if-sinful."

"What is mortal-if-sinful?" asks Commonsense.

"It means that a person is subject to permanent death if he or she has ever done or thought anything that is wrong, meaning prideful, selfish, envious, spiteful, and so forth," explains Christian.

"Why would you think that people are mortal-if-sinful?" asks Commonsense.

"Well, that's a long story, but let's just say for now that I've observed that they are. Every sinful person that I've known or heard of has permanently died, unless they're just too young to have gotten around to it yet."

"Yes," says Commonsense, "but why do you think they're mortal-if-sinful rather than simply mortal?"

"Well," asks Christian, "why do you think they're mortal rather than mortal-if-sinful?"

"Well," says Commonsense, "I guess mortal-if-sinful just seems like an odd thing for people to be."

“Why?” asks Christian. “What do you mean by odd? And how do you know you’re right about what is odd and what isn’t?”

“Well, never mind about that then,” says Commonsense, sidestepping a difficult problem, as is his wont. “So you’re saying that if someone, somehow, led a perfect life, they wouldn’t necessarily die?”

“Not permanently,” says Christian. “Death couldn’t hold him. And there was one.”

“Who?”

“Jesus of Nazareth. He was a man without sin, and though He let Himself be killed, death could not hold Him, so He shattered death's power and rose from the dead, as we know from many eyewitnesses.”

“Isn’t it more likely that the eyewitnesses were mistaken somehow?” suggests Commonsense. “Doesn’t the proposition that all men are mortal have a pretty strong track record of being true?”

“By my reckoning,” answers Christian, “it is the proposition that all men are mortal-if-sinful that has a strong track record of being true.”

Setting up a Bayesian updating problem from this example again promotes clarity. Let proposition A be that all men are mortal; proposition B, that all men are mortal-if-sinful; and propositions C1, C2, C3, etc., that specific humans died. From any starting points of Bayesian confidence P(A) and P(B), C1, C2, C3, etc. would confirm, and therefore raise confidence in, both. But the two beliefs are logically incompatible with respect to mortality of a sinless man, with A requiring it and B saying nothing about it. In the event of hearing good evidence that a sinless man rose from the dead, a strong believer in both A and B would believe that we both do and do not have strong reasons to disbelieve the evidence.

I haven't read all the efforts of philosophers to address the grue paradox, but my own takeaway is that the only escape from the insane indeterminacy of all inductive reasoning that the grue puzzle opens up, is to accept that ideas are real, in something like the way Plato insisted they were, and to make a policy of accepting as legitimate candidates for Bayesian confirmation only propositions composed of real ideas. We know the real ideas, like green, from the fake ones, like grue, by a faculty that may be called “intuition.”

The grue skeptic, then, is answered thus. Yes, as a matter of mere logic, the available evidence is as compatible with grass being grue as with grass being green. But we treat the available facts as evidence that grass is green,

not grue, because green is a real idea and grue is not. “Grass is green” is a proposition composed of real ideas, which therefore deserves to be a candidate for Bayesian confirmation, while we dismiss “grass is grue” without even needing to consult evidence, on the authority of intuition.

What if grass really is grue? Would it be impossible for us to learn this fact because we rejected the concept *a priori?* Not exactly.

“Grass is blue” is a legitimate proposition, based on real ideas, acceptable for Bayesian confirmation. At present, all the data are against it. But if after some time T all the grass really did turn blue, this reality could be recognized by updating on the proposition “grass is blue.” At that point, though, it could be recognized that neither “grass is green” nor “grass is blue” really performed satisfactorily over the whole dataset. What would be needed are new propositions “grass was green before T” and “grass has been blue since T.” So far, there would be no reason to invent a concept like grue. But if many other green things besides grass *also* turned blue at time T, it would start to look useful to coin a general concept of “grue” to describe them all. The concept would be empirically motivated and weird, and science would probably see it as a placeholder label for a phenomenon still in need of explanation, since we would still know by intuition that grueness is not essentially a thing. Only when new theories were developed that explained the green-to-blue shift in terms of real ideas, for example if we learned that a virus had swept through all plant life and altered chlorophyll so that its color changed from green to blue, could we feel we had a satisfactory description of the world.

Now, this idea that ideas are real, and we can distinguish real from fake ones through our powers of intuition, will probably strike many as weird. In the case of green vs. grue, no one will doubt which is the real idea and which is the fake one, if we have to choose, but we might be reluctant to attach much importance to what might seem like a somewhat arbitrary, merely aesthetic judgment. Some might be reluctant to assert positively that green is real, or that grue is fake.

Other cases could be constructed where distinguishing real from fake ideas would be much harder, and the issue of whether people are mortal or mortal-if-sinful can serve as a case in point, though it's unusual in being religiously polarizing. To a typical unchurched person, mortal will seem like a clearly real idea, while mortal-if-sinful will seem much more like an arbitrary construct. Even for most Christians, mortal-if-sinful may not seem

like a very easy idea to wrap one's head around, but if sin and death are conceived in a certain way, it may come to seem intuitive that death is a consequence of sin, at which point “mortal-if-sinful” might seem like a more real idea than merely “mortal.”

I think a common impulse, in response to the difficulty of discerning real from fake ideas, would be to avoid settling such questions based on mere intuition, and turn to the evidence instead. And sometimes it is possible to strengthen one's intuition by contemplating the world, and to let the data help one decide whether an idea should be taken seriously or not. But the grue paradox shows the limits of that. We can't derive any knowledge from evidence without simultaneously using ideas discerned by intuition. Plenty of people may think they are doing so, but they are simply naive about how their thought processes are working, as a modern-day Socrates would be able quickly to reveal with a few well chosen questions. Reason depends absolutely on the reality of ideas and the authority of intuition, without which we could never know enough even to get out of bed in the morning.

Plato had a theory of ideas that is rather odd, and it's not clear how seriously he meant it, yet it might be needed as medicine for an age that has long underappreciated ideas, and tried to take refuge from the difficulty of them in materialist illusions. Plato seems to have envisioned ideas as comprising a realm of eternal forms, of which material things were something like copies or echoes, and imperfect ones at that. To illustrate the relationship between the material world and the realm of the eternal forms, he offered his famous parable of the cave.

In Plato’s parable, a group of people are prisoners in a cave, staring at a wall forever. On the cave wall, there are dancing shadows. Behind them, where they cannot see, people are marching around a fire carrying shapes modeled on the real things outside the cave—cows and trees and birds and mountains and so forth—and the shadows produced by these images are the only things that the prisoners in the cave know. They talk about these things amongst themselves, and make words for them. And so they speak of cows, trees, birds, mountains and so forth, but they can't really attach more meaning to these words than the shapes they see on the wall. Possibly, in moments of insight, they feel that there's another significance in the forms they're seeing, and for a moment dimly guess at what cows and birds might really be. But generally, all that's in their minds are shadows.

Then one day, one of the prisoners gets *out*. He cuts his bonds, walks out of the cave, and after his eyes adjust to the light, he looks around in wonder at the real, bright, solid world. And he sees what cows, birds, trees, mountains and all the rest of it *really* are. So he goes back to tell the other prisoners. Are they grateful? Not at all! They just think he's crazy, and conclude that it's no use going up there, out of the cave. All it does is ruin your eyesight. The man who escaped from the cave and saw reality has some connection with Plato's ideals of the philosopher and of education, but it need not be read in too elitist a way. All of us have had this exciting experience of seeing the world differently after we learn something new, of leaving behind the cave of ignorance for the light of knowledge. Science claims to reveal the true natures of many things in ways that transform our view of the whole world, and so, in a different way, does Christianity. As an old hymn puts it: "I saw the light, I saw the light / No more darkness, no more night." And yet sometimes the enlightened are tempted to fall back into old bad habits. Plato's Republic was meant as a metaphor for the soul, and sometimes the mocking prisoners in the cave may be elements within our own minds that resist and disdain new insights we gain and moral endeavors we undertake.

To say, as Plato sometimes seems to, that only ideas are fully real while material, physical things are merely derivative, like shadows of cut-out shapes, is a very strong claim to make about the comparative reality of ideas! I might not go quite that far. And yet I think it turns out, on close examination of many questions, that we need something a little like Plato's idea of ideas in order to make sense of how we speak and reason every day. If you and I are thinking about cats, what does that mean? What is this aboutness? And what is this "cats" to which your thoughts and mine are in the same relation? "Thinking about" is clearly not a physical relation like touching. "Cats" here does not mean any particular set of cats. Rather, it must be the idea of cats, the eternal, universal form of cats, of which specific cats are mere instances, to which the aboutness of your thoughts and mine both point. And so if we agree in saying that "cats are beautiful," we praise even cats we have never seen before, but which instantiate the universal idea of cats. We could still think about cats if they went extinct, or if we forgot they had ever been real and believed them to be only a myth, and we can think about things that never existed, like unicorns. But while unicorns aren't real, the idea of a unicorn is.

We can only apply numbers to the world if we first categorize things. Two of a thing, e.g. two cats, depends on things instantiating the same idea. Obviously, all this raises many more questions, and if this were really a book of philosophy, I'd have to wrestle with them a lot more. For now, the point is that wise old Plato knew the answer to the grue problem that modern philosophers, burdened with a bias for making the intellectual world safe for scientific materialism, have struggled to achieve. "Green" has a place in Plato's lofty realm of eternal forms; "grue" does not. Therefore, statements based on the idea of green are legitimate candidates for Bayesian confirmation, while statements based on the idea of grue are not. Thus reason is saved.

If we let some version of Plato's theory of eternal forms regulate what theories we accept as legitimate candidates, we can accumulate evidence in favor of a worldview through Bayesian updating, without letting the endless proliferation of ad hoc new theories distract and stultify and interrupt us. We have an answer for Coinflip Theorist: his exception-ridden theories do not spring simple and glorious from the Platonic realm of ideas, but are unscrupulous hacks to fit awkward data, and therefore fail to be an acceptable basis for generalization. He needs more Platonic discipline about what theories of the world to propose. The little girl with the teachers and grandmothers could benefit too from the insight about the peculiar kind of simplicity that theories ought to have. Our Platonic passport requirement for new propositions seeking admission to the truth tournament in our minds is akin to the vague yet important principle of "Ockham's razor," which favors acceptance of the simplest theory that fits the facts.

Some readers may keep feeling that the grue paradox is just too silly to have the importance I'm attaching to it. Who would make such a mistake? One writer recently did. Matt Ridley, a boisterous champion of a kind of evolutionary progressivism mixed with market capitalism, made it a principal theme of his recent book, *The Rational Optimist*, that "ideas have sex." This sounds like a gratuitously pornographic absurdity, but it's actually a highly sophisticated, far reaching, and productive hypothesis, with which many smart people sympathize in one way or another. It's true that the propagation of genes through the human race, mingling and sharing and multiplying, bears some resemblance to the propagation of ideas among human minds, as they interact, sometimes competing with or undermining each other, sometimes combining into systems. But ideas do not have sex,

even metaphorically. If they did, ideas like *grue*, produced by green “having sex with” blue, are exactly what you’d get. Ideas could get intermingled and muddled in any old way, causing theories to proliferate infinitely, until nothing could be settled because every fact would confirm a thousand incompatible theories. If we allow concepts like grue to make claims for Bayesian consideration, inductive reasoning becomes radically indeterminate. If ideas had sex, we’d all go mad.

It's time to bring closure to the project we began in chapter 2. We set out to explain why there is so much commonsense agreement, even as people disagree so much about religion. What have we learned?

The answer we offered in chapter 2, that commonsense agreement comes by learning from evidence in Bayesian fashion, is still valid as far as it goes, but it needs to be qualified in a crucial way. *If* people begin from a common stock of ideas and theories that they treat as candidates for Bayesian confirmation, then sufficient evidence will bring them into agreement. A trace of arbitrary, pre-evidential priors can never be eliminated, but it becomes unimportant if evidence is abundant. Where evidence is slight, priors determine belief, and such guesswork need not converge on agreement. And moderate amounts of evidence not only may fail to induce agreement, but, counterintuitively, may induce diametric disagreement where close, though not quite perfect, agreement prevailed, because of the nonlinearity of the process by which evidence changes people's minds. This weird twist in Bayesian belief dynamics can be proved mathematically to be possible, but the only example that I know of where sharp disagreement about a straightforward factual claim persists in spite of abundant evidence is the resurrection of Jesus. The commonest case for people in the same culture is for abundant evidence to lead to consensus.

In addition to learning from evidence, people and cultures often change their ideas and theories, as they try to achieve logical consistency or coherence. Bayesian processing of evidence provides little protection against self-contradiction. On the contrary, it can lead a person into self-contradiction, when evidence simultaneously confirms two theories that make the same predictions over the set of phenomena observed, but opposite predictions about other cases. So progress towards truth depends not only on processing evidence voraciously, but also on continually auditing the set of generalizations in which one believes for consistency. Cultures and other communities of belief are important as ways to cast a

wide net for evidence, but even more, as ways to multiply cognitive power for the difficult task of critical reflection in pursuit of coherence. Many brains are better than one.

My emphasis has been on “agreement” rather than “knowledge,” but of course, the goal is not merely to agree, but to be right, to know. “Knowledge” may seem to deserve a careful and deliberate definition, yet I'm not sure that it really does. Suppose you define “knowledge,” and then discover that while you have many confident beliefs that are true, none of them meet the criteria to qualify as knowledge. Would that matter? It's not clear why it should. And so I define the word “knowledge” rather casually to mean (a) beliefs formed in a way that a reasonable culture considers reliable that also (b) happen to be true. A reasonable culture, in turn, is a group of regularly communicating people that diligently engages in (a) critical reflection in pursuit of logical consistency and coherence, and (b) the collection and processing of evidence. In the limiting case, the group could consist of one member, so individualistic knowledge is possible, but the collectivist emphasis in the definition is deliberate, for in practice, knowledge of particulars is always dependent on knowledge of generalizations, and individuals’ knowledge of generalizations is usually derived from a culture.

There is another requirement. We learned from our study of the grue problem that if any general knowledge at all is to be possible, true generalizations must consist of real ideas, or so to speak, Platonic ideas, which we have access to by means of our faculty of intuition. That's another way of saying that the world is intelligible. A kind of necessary faith comes into play here as the first precondition of reason: faith that the world is intelligible, law-abiding, sensible, rational, patterned in a way that we can understand, knowable by our minds. If grass were grue, the world might still be intelligible in other respects and most of the time, but if all properties of all things were thoroughly grue-like at every moment, the world would be a mere chaos. Reason might still deal in mathematical abstractions in the theater of the mind, but it would be exiled forever from the external world. And people may go through dark nights of the soul in which the world seems like a mere chaos. But most of the time, the sunny daylight of faith in the intelligibility of the world shines either in a blue sky, or at worst, through clouds of skepticism and confusion that dim but do not darken it.

And the doctrine of the intelligibility of the world, which provides the foundation of all practical and experiential knowledge, also supplies the method for fortifying the knowledge we have and getting more of it. First, test your beliefs continually through critical reflection and attentiveness to experience. This will lead to crises, occasional or frequent depending on how much correction you need and whether the circumstances for learning are propitious. In the face of crises, intuition must work overtime, seeking patterns amidst seeming chaos. The patterns must consist of real, Platonic ideas. That restriction, which we instinctively apply by the laws of the mind, is indispensable for limiting the options to a manageable number. When we come across an intuitively appealing pattern that fits available data and offers a way out of the crisis, that becomes a theory or hypothesis. The force of intuition is likely to make us invest a good deal of confidence in a new theory, perhaps in a sense too much, since new theories often turn out to be wrong. But that might not much matter in practical questions, for evidence will soon refute false hypotheses. The turn of evidence comes after theory, and theories well vindicated by evidence comprise our knowledge.

Let the question of *how* we know be considered settled for purposes of this book. Next, *what* do we know? Let's consider first the claims of science, inasmuch as they affect our central question of whether Christianity is true.

Chapter 7: Physics and Christianity

We want to find out what science knows and what the ramifications of science are for the truth of Christianity, and the best place to start studying science is with physics, because physics is the most fundamental, the most underlying and general and universal, of the natural sciences. Scientists regard chemistry as reducible to physics, and biology as reducible to chemistry. Chemistry does not apply inside stars, where it's too hot for any molecules to form, and most of the matter in the universe is in stars, so in one sense, chemistry is limited in scope, a special case. And biology is a much more limited special case, for there are no living things that we know of outside planet Earth and a few man-made projectiles into outer space. But physics applies to the whole material universe, or from the scientific materialist perspective, to everything.

It was in the 17th century, in the age of Galileo and Newton, that physics emerged as a sweeping explanation of the cosmos that threatened to become so complete as to leave no room for anything else. Ever since, physics has been, in one sense, the chief rival to Christianity. Physics and Christianity are the principal explanations on offer of the ultimate natures of things. Christians accept physics but don’t regard it as sovereign or ultimate. To scientific materialists, of whom one of the first was the English political philosopher Thomas Hobbes (1588-1679), physics is all there is. When Newton (1642-1726) published his *Philosophiæ Naturalis Principia Mathematica* in 1687, with his laws of motion and his theory of gravity, from which he derived his explanation of the motions of the planets as well as everyday experiences of starting and stopping and dropping and weight, deterministic laws of limitless scope suddenly explained so much that they seemed likely to explain everything else too, leaving no room for many things religion believed in, such as miracles and free will and supernatural, immortal souls. The reign of Newtonian physics lasted for over 200 years, and when G.K. Chesterton (1874-1936) defended the faith in the early 20th century, he had to face off against a grimly deterministic universe that had long seemed to have the full authority of science behind it.

But times have changed. Physics now deals a Christian apologist like me a much more favorable hand to play.

I had better add quickly that the scientific materialist worldview that make physics the basis of all things is as influential today as it ever has been. That's because *biology* has become, since Darwin, a stronghold of atheistic reductionism. But as biology has turned hostile, physics *per se* has changed in four major ways that make it much more congenial to Christianity.

First, we learned gradually over the early and mid-20th century, to the point where it is now settled science, that the universe began, at least as far as we can extrapolate, with a dramatic event called the Big Bang. Once, long ago, the universe was a small, incredibly hot and dense mass of formless matter, expanding rapidly. We can tell that because it's still expanding slowly, and we can trace backward by extrapolating momentum and gravity, and by using our knowledge of subatomic particles and light, all the way to a point in time a tiny fraction of a second after the Big Bang... and then, we know nothing. *What caused the Big Bang?* Science has no idea. How could it? It relies on deriving patterns from observation and experiment, but the Big Bang was too unique an event to be studied that way. The question practically begs to be answered: God.

Second, the universe seems to be “fine-tuned” for life in many different ways. This metaphor of “fine tuning” needs some unpacking. If you’re playing a stringed instrument like a guitar or a violin, you want the pitches produced by different strings of the instrument, when played “open” or without fingering, to be related to each other in very specific ways. For example, on a violin, the ratio of the frequencies of the sounds produced by adjacent strings should be exactly 3:2, which musicians call a “fifth.” Even a very slight deviation from this makes the music sound “out of tune,” and music played on a violin with a ratio of, say, 3.1:2 between the frequencies of adjacent strings would be unrecognizable. To make beautiful music, the violin needs to be finely tuned.

In the same way, the laws of physics need to be finely tuned, far more so than the strings of any violin, for the universe to play that music that we call life. Fortunately, the laws of nature *are* fine tuned in just the way they need to be. We’re lucky to be alive! But fine tuning implies a wise and purposeful and powerful Fine Tuner, that is, a Creator, or in short, God.

As an example of fine tuning in nature, when the Big Bang first banged, there was an incredible amount of outward momentum in the matter and energy of the primordial universe, but at the same time, there were

gravitational forces pulling it back together. If the outward momentum had dominated the gravitational attraction, the universe would have expanded too fast for stars to form. If the gravitational attraction had dominated the outward momentum, everything would have been sucked back into a universal black hole.

What happened instead, namely an intricate pattern of stars and galaxies and planets, neither exploding nor imploding, required the outward momentum and gravitational attraction to be in incredibly fine balance. How did the initial conditions at the Big Bang happen to be set so that the universe steered ever so narrowly between being a diffuse fog and getting swiftly flushed into black holes? It's as if a bullet were shot through the eye of a needle at a hundred paces. But only believe in God and the mystery vanishes. God wanted it that way, of course, because it's beautiful and interesting.

There are many other examples. It takes an incredibly fine balance between the strong nuclear force and electromagnetic repulsion to yield the manageable number of stable atoms that provides a basis for chemistry. Gravity seems to be fine tuned to hold stars together without making them all collapse into black holes. Life could not exist if electromagnetism were slightly stronger or weaker. I have to take all this on trust, not being able to perform such physics calculations myself. But it seems to be uncontroversial among physicists now that there is at least apparent fine tuning in nature, a quality of vast beneficent coincidence about the universe, which has led even some irreligious physicists to transgress strong methodological scruples and entertain the possibility of intelligent design as an explanation of it all. It would be more conventionally "scientific" to seek non-theistic explanations of apparent design, as Darwinian evolution purports to offer for the vast amount of apparent design in living organisms. But when the apparent design is found in the most fundamental natural laws or in the initial conditions of the Big Bang, any such effort would seem to be checkmated before it can begin. The one recourse of conventional scientific nontheistic explanation in the face of overwhelming evidence of fine tuning is to postulate many universes, giving rise to the "multiverse" hypothesis, which is actually proposed and believed by some, but it seems like a *reductio ad absurdum*. To this we will return.

Third, the old determinism of physics gave way in the 20th century to a strange new doctrine of subatomic randomness called quantum mechanics,

and this deprives arguments against free will of the warrant from physics that they used to enjoy.

A few Christians have occasionally stumbled into odd cul-de-sacs of predestinationism, but essentially Christianity has always agreed with common sense that people have free will. You do what you do because you choose to do it, not because you had to do it. Choice is one of the origins of what happens. Your choices are shaped and influenced but not determined by your preexisting traits and circumstances, and your actions cannot in principle be predicted with perfect exactitude, at least by actors working from within space-time, setting aside the special problem of divine foreknowledge. You could have done otherwise.

This general prediction of human unpredictability holds up very well empirically, by the way. So it doesn't surprise us at all that we've gotten much better at predicting thunderstorms but no better at predicting specific crimes. No one expects science to predict human behavior, partly because we know by our own personal experience of free will that our own behavior is unpredictable, and partly because science has never had any success in predicting human behavior in the past. Nonetheless, long ago, when Newtonian physics reigned supreme, free will seemed incompatible with the basic nature of the universe as assumed by science. As science progressively elucidated the laws of nature, and more and more things became explicable and predictable, human conduct, too, which science could all too easily assume must be governed by the same kind of inexorable laws that governed the motions of the planets and the interactions of substances in the chemist's test tube, should become predictable. Free will seemed an impossibility, and apparent freedom of the will was only the measure of our ignorance.

No longer. In the early 20th century a variety of phenomena forced physicists to begin interpreting the universe as *probabilistic* rather than deterministic at very small levels. A crucial step was the introduction of the "Heisenberg uncertainty principle" into physics in 1927, which articulates certain permanent limits on the accuracy with which the position and momentum (jointly) of tiny particles such as electrons can be observed. I don't fully understand why this caused a revolution in physics away from causal determinism, in favor of a belief in subatomic randomness. It seems like physicists might have concluded instead that determinism was still valid, but at some level the operations of cause and effect were permanently

unobservable by us. But subatomic randomness seems to be settled science now. And if the universe is not deterministic, one reason to disbelieve in free will is taken away.

That's not to say that science now believes in free will. The scientific project is still committed to a reductionism that makes the notion of a free human will shaping events in the world deeply alien. And I don't want to pursue a detailed investigation into how subatomic randomness might give free will an opening, as if we needed a permission slip from science to believe in free will. On the contrary, we know infallibly by introspection that we have free will, and science, ultimately, must learn simply to accommodate that, at whatever cost to the coherence of its worldview. It has always been an intolerable presumption when people claiming a warrant from science have doubted it. But it's nice that the determinist form of the attack on free will has been largely abandoned, no longer enjoying any epistemic warrant from physics.

The fourth big way that physics has dealt a favorable hand to Christian apologetics is something called the Second Law of Thermodynamics. As the doctrine of the Fall was once thought to be inscribed in nature in the form of the celestial versus sublunary spatial division of the cosmos, we can now see it inscribed in nature in the form of the Second Law of Thermodynamics. To understand what that is, let's start with the concept of useful energy. Technologists love to convert energy from one form to another, in order to make it useful for various human ends, and they've found many ingenious and surprising ways to do so. But there are limits. Useful as it might be, you can't convert diffused, ambient heat into motion. You can't run a ship on the heat in sea water, dropping blocks of ice behind the ship. You *can* create heat gradients and use them to power motion. Car engines exploit the heat from gasoline combustion to turn wheels. But that's because concentrated heat is a form of order, or what scientists sometimes call "disentropy." Disentropy can be changed from one form to another, but a little of it is always lost along the way. And in general, the Second Law of Thermodynamics asserts that disentropy in the universe is always retreating, diminishing, giving way to entropy or chaos. On the order-chaos spectrum, change goes only one way, in a sense the wrong way, from order to chaos. You can stir things together, you can't stir them apart.

Life is a kind of not-quite-exception that proves the rule. Order does increase locally in living creatures as they grow. But they only achieve this

by, so to speak, hoarding temporarily, for their own use, some of the supply of disentropy in the universe. We eat food and void excrement; something has been lost. Plants rely on the usable energy of sunlight, which is plentiful enough for now. But deep inside the sun, the disentropy of free hydrogen atoms is being depleted as they sink into the nuclei of larger helium atoms. To put it another way, the sun is slowly burning through its limited supply of fuel. Someday, science foresees, it will run out of hydrogen, and start to burn up helium as fuel, resulting in a temporary, dramatic expansion into a huge "red giant" star. Later, it will collapse into a small, dim "white dwarf," luminous because hot but burning no fuel, and then slowly darken into a "black dwarf," thus to remain forever. In general, the future of the universe, as physics foresees it, is intolerably sad. The stars will burn out. Much later, the dark solar systems will break up. Much later still, the dark galaxies of long-since burnt-out stars will very slowly break up. Life will probably, from the scientific materialist perspective, meet its end with the death of the sun. If it is ingenious enough to migrate from solar system to solar system, it might last a while longer. But of course it has no chance amidst the doom of universal darkness. There will then be nothing sentient or beautiful or meaningful, forever and ever.

In the heart of Christianity is a long tradition of agonizing over the mortality of all things. The Bible contains the meditations of sad old Solomon the Wise on how "all is vanity." Things fall apart. But the Fall doesn't have the last word. As in Adam all die, even so in Christ shall all be made alive. The Resurrection is the answer to all the agonizing questions. Death's victory, though it is all around us, will be nullified at the end. The trumpet of its defeat has already sounded, and we are called to rally round the banner. Yet we must still live in this dying world, until the moment when all things are changed. Physics sheds a powerful light on the mortality of all things, on the universal decay. It knows nothing of the Resurrection, the rescue, the repair and redemption of this dying world. But how should it? It can only extrapolate from observation, and tell us how things are. If God is plotting a new creation, and has circulated promises of what He *will* do, it is not the job of the physicists to have heard about that.

Yet physics can still suggest why the current situation of ever-increasing entropy can't be the permanent law of the universe. For it won't quite do to settle for a trend towards chaos. If Humpty Dumpty is falling (to borrow an example from C.S. Lewis), it makes sense to ask how he got onto the wall

in the first place, even if no analysis of the process of falling is ever likely to shed light on the question. Physics can observe only the slow triumph of chaos. But whence comes this endowment of order that is being inexorably depleted? Doesn't there need to be something outside the reach of the Second Law of Thermodynamics that could have supplied the fund of disentropy which the universe we observe is so emphatically powerless to generate, and can only run down? And whatever that something, that source of original order, may be, might it come back to rescue us from our plight? This kind of tentative deductive guesswork about possibilities starts to lead from physics into a new perspective on Christian doctrine.

We have seen three arguments that I have said seem to suggest a Creator: the argument from the Big Bang, the argument from fine tuning, and an argument from the universe's endowment of disentropy. But do they really? How do we know? How can we settle the question?

Let's put to one side for the moment the divine personality that we meet in the Bible. Any Creator we deduce from physics will surely be more abstract than that, at least at first.

If we're going to interpret the universe causally at all, it seems necessary to ask why the Big Bang occurred. The something that caused it would need to be very old, very strong, and have some independence from the physical, material universe, since it seems impossible that the origination of the physical universe could be the work of something contained in the physical universe. But I don't think the Big Bang alone would compel us to imagine a *personal* creator. It might be something more like a force.

When we add fine tuning to the story, more of the traits of the Creator come into view. There seems to have been a plan. A remarkably far-sighted, complex and intricate plan. The Creator seems to have wanted a night sky full of stars, and to set the stage for that great crescendo of complexity and diversity, autonomy and adventure that we call life. There is some kinship to a human artist, though a vast difference too, obviously in the scale, and maybe also in the style.

And yet I can't shake a feeling that I'm *reading into.* I don't feel at all sure that I'm separating adequately the creative personal force that I'm deducing from physics from the God I believe in for other reasons. So perhaps I'd better come clean first about what those reasons are.

I’ve done little so far to define God. That’s intentional, because I think you already know more about God than I could ever tell you, even if you call yourself an atheist. I don’t want to offer a definition that would crowd out your intuitive knowledge and substitute something less true in its place.

Children soon form ideas of God, often with a strange ease. Atheists typically have some notion of who God is supposed to be. I think it’s more natural to believe in God than not to, and if the causes of disbelief can be removed, belief will happen naturally, without more evidence, because there was already plenty of evidence. It lay in the beauty and meaning and order of things. Perhaps one's inmost heart bears witness in a way even more fundamental than that.

Indeed, if I have to offer a proof of God’s existence, here’s the one I’ll choose. Look around you. Find some object of interest like a chair, a clock, or a tree. Take it in. Now look again. It’s still there! Why? *Who sustained it in existence?* It wasn’t me! I don’t know how to manage the basic existence of things. I don’t have that power. It wasn’t you either, was it? It must have been... God!

This probably sounds like a joke. Fine, I knew it would. But the point stands. There is no reason in mere logic that the world should keep existing. That it does, shows something deep about the nature of reality. It needs an explanation. God is an explanation. There aren’t really any other candidates.

But then, what do atheists think is the reason why the world goes on existing from minute to minute, hour to hour, day to day? The laws of nature. Modern atheists tend to give the laws of nature some of the characteristics of God, seeing them as perfect and immutable, always existing, necessary, everywhere present and filling all things, givers of life, all-powerful. In a way, gravity and electromagnetism and e=mc^2 are their gods, or their substitutes for God.

Of course, the same question can be asked of the laws of nature that was asked of the chair: why do they go on? What sustains them in existence? You can ask the same thing of God, too, but theology has an answer: God is the necessary being, who must in His nature exist and cannot not exist, the foundation and source of all being, so He alone of all things needs no cause but Himself. That is a difficult but serious answer.

By contrast, the laws of nature, if you stop to think about it, are clearly not necessary or self-existing, and they might have been different. So they

are not candidates for the foundation of all being in the way that God is. And so perhaps we can try to refine these thoughts into some proposition like the following:

Proposition A: There is a being that is the foundation of all being, necessarily existing in itself, which is the source of existence and sustains all other beings, including matter and energy and the laws of nature, in their existence. For the sake of argument, this being may be called "God."

Now, you might not feel very confident about A. The reasoning that led us to it is a bit ineffable. The question to which it is the answer seems at once overwhelming and non-urgent. It's hard to see how you would really settle it. Your first impulse might be to assign a moderate level of confidence to A being true, and then feel a bit helpless to move forward.

And what's the alternative to A? I'll articulate it like this:

Proposition ~A: There is no foundation of being.

It's my intention that A and ~A, together, cover all the possibilities. Of course, it's not obvious that that's true. The words of A and ~A could be interpreted to leave logical room for alternatives to both. But assume that the extra words in A just clarify what "foundation of being" means, while ~A covers everything else.

Now let's take the first argument from physics, and see if it strengthens your reasons for believing in A. The argument is that the Big Bang supports the creationist doctrine, the idea that the material universe was created by God.

Now if you believe in God anyway, that's easy. The only question then is whether the universe was created in a temporal sense, with a moment of origin, or if it existed forever. And the Big Bang settles that: the universe has an origin, so if it depends on God as its foundation of being, then that's when God began its being, i.e. created it. But here we don't want to assume there's a God, but rather to establish it.

So let's start by formulating the Big Bang evidence thus:

Proposition B: The entire material universe originated at a specific point in space and time.

Is B evidence for A? Is the Big Bang evidence for God as the Big Bang causer? To answer that, we must first do our best to judge the values of:

P(B|A): the ex ante probability that B would be true, given A, that is, that if there is a God/foundation of being, He/it would have originated the entire material universe, Big Bang style, at a particular point in time.

P(B|~A): the ex ante probability that the material universe would have sprung into existence at a particular point in time if there is no foundation of being.

Now, these are very challenging questions for intuition to wrestle with. For what it's worth, though, it seems to me that P(B|A) must be rather high, and P(B|~A) rather low. Of most things, we can ask, "When did it begin?" and get an answer, so it's more plausible that this should be true of the material universe as well. And infinity seems to create logical problems. For example, if it takes sequoia trees 500 years to grow from seed, and there have always been sequoia trees, then when did the first sequoia seeds appear? Five hundred years before always? That doesn't seem to make sense. But it also makes no sense to say that, in an eternal universe, the first sequoia trees must have appeared full grown because there was no time for them to grow from seed. You avoid these logical problems if the foundation of being originated the material universe a very long but still finite time ago. On the other hand, if there is no foundation of being, it seems to force the conclusion that matter and energy are necessary and self-existent, and therefore eternal. After all, how could they have originated at all if there is nothing to originate them? Is it conceivable that they could have sprung into existence by mere accident? What would that mean?

So let's assign P(B|A)=90%, P(B|~A)=10%, and an initial P(A) of 50%. What does that imply about whether the Big Bang is evidence for God? Well:

P(A|B) = (90%*50%)/(90%*50%+10%*50%) = 90%

So using my intuitions at any rate, the Big Bang is evidence for God, in the attenuated sense of a foundation of being. So far, though, I don't see it as necessarily evidence for a personal God. Merely to bring things into existence might be the work of some impersonal force or principle. But that brings us to the fine tuning argument.

The fine tuning argument does more than provide evidence that there is some kind of foundation of being. It provides evidence for a God who can imagine and execute plans and designs, and who in that sense resembles a *person* more than anything else that we know. The fine tuning of the universe is evidence for a *personal* God. To see why, let's start with:

Proposition A': There is a foundation of being, which has the traits of a person in the sense that it can imagine and execute plans and designs. This can be called a personal God.

The alternative to A’ is:

Proposition ~A’: There is no personal God.

The fact that is claimed to serve as evidence for A' is:

Proposition C: Many seemingly arbitrary features of nature, such as the initial mass and centrifugal momentum of the material in the universe immediately after the Big Bang, and the relative strengths of fundamental forces, happen to fall with extreme exactitude in such a way as to allow for the existence of stable complexity and of life in particular, such that if they were slightly different life could not have occurred. That is, there are “fine tuned.”

Next we need to assign some sort of intuitive probability to:

P(C|A'): the ex ante probability that C is true if A' is true, that is, that the universe would be fine tuned if there is a personal God.

P(C|~A'): the ex ante probability that C is true if A: is not true, that is, that the universe would be fine tuned if there is no personal God.

Now, P(C|A') seems likely to be rather high. To design a universe suitable for life seems like the sort of thing a personal God would be likely to do. By contrast, P(C|~A’) seems like it would have to be infinitesimally small. It’s extremely unlikely that the universe would be fine tuned by any such chance process as must be imagined in the absence of a personal God. Maybe P(C|A’)=80% and P(C|~A')=0.00001%.

Perhaps it seems unlikely at first that there is a personal God. Let the initial P(A’) be 10%. Then P(A’|C)= (80%*10%)/(80%*10%+0.00001%*90%)=99.9999%.

In other words, using reasonable intuitions about various prior probabilities, and applying Bayes’ Law, the existence of a personal God is established with virtual certainty from the observed fine tuning of the universe. And this has in fact been widely recognized as a straightforward *prima facie* conclusion from observed fine tuning. The case from fine tuning for a personal God is sufficiently compelling that a rather desperate hypothesis has been advanced in order avoid the, for some, unwelcome conclusion. Meet the “multiverse.”

It seems to be seriously held by some physicists, as far as I can tell, that there is a vast variety of universes other than the one we see. The one we see is fine tuned for life because of the “anthropic principle,” which is that an environment we inhabit is suited to our needs because otherwise we wouldn’t be here. The other universes exist, but the vast majority have no

sentient life to observe them. Certainly we can't observe them. They're whole other systems of space-time, with different physical laws, and no communication with our universe. How, then, do we know that they exist? Because it would be too improbable that our universe could support life, if it were the only one. That the super-universe, or universe generator, or whatever, had such a lucky roll of the dice in getting a framework of natural laws suitable for life in our case shows that it must have had a great many tries.

Does that make sense?

The anthropic principle does sometimes validly apply, of course. Why is the Earth so well suited to the needs of life? Because of the anthropic principle. Many other planets are uninhabitable by life. Consequently, we're not there to observe them. For planets, it's true that many planets exist, and the one we live on is fine tuned for life because otherwise we wouldn't be here. But the difference is that we can see those other planets, some with the naked eye, others with telescopes. So we believe in other planets based on clear observational evidence, not just rarefied theoretical guesswork.

If there are other universes, how many, and what kind? Do *all conceivable* universes exist? That claim at least would have a kind of completeness about it. But it leads straight back into the strange *reductio ad absurdum* of the "grue" problem. Is grass green, or grue? If all conceivable universes exist, then universes where grass is grue, which is certainly a conceivable state of affairs though very odd, must exist. And if they exist, we might be living in one. So this extreme version of the multiverse hypothesis, which has at least a certain simplicity about it, kills the possibility of inductive reasoning and therefore of science.

How about a multiverse hypothesis that claims all *orderly* universes exist? But what does "orderly" mean? And couldn't universes with grue grass be orderly in many ways? Perhaps what would best suit advocates of the multiverse as a shield against the fine tuning argument for God would be a universe generator whose outputs vary only with respect to the parameters of our universe that happen to be fine tuned. Such a multiverse would be populated with universes that had different quantities of matter and initial momentum, and different relative strengths of the fundamental forces, but still had time, space, matter and energy. But it's a bit suspicious that universes would vary only in ways that happen to be convenient for physicists.

Meanwhile, it’s a good moment to step back and notice something odd. Scientists sometimes emphasize the primacy of observation. Science is supposed to be grounded in evidence, in contrast with religion, which sometimes asks people to take things on faith. In one sense, science has been moving away from that ideal for some time, as it studies things inherently invisible, such as forces, or things too small to be seen. But some observation is still generally needed to establish a scientific concept. It might be quite indirect, and require a lot of interpretation, but evidence is necessary and decisive. Now, with the multiverse, vast claims are being advanced about things we can’t observe, and never could observe, even indirectly,. Such fanciful exercises hardly seem compatible with the spirit of science. There was a time when fans of science often mocked theologians for engaging in fine speculations about things not observable. Now the shoe is in the other foot!

Ultimately, the best answer to the multiverse may be to invoke the authority of intuition to dismiss it. A single universe is like green grass. The multiverse is like grue grass. Green grass is a single universe ruled by a Creator. It's a legitimate candidate for Bayesian confirmation. A multiverse of universes in which natural laws and quantities vary in just the ways needed to make fine tuning in one universe not prohibitively improbable is like grue grass. We can rule it out by intuition as excessively odd.

It’s a remarkable turnaround to be able to enlist the lance of physics to lead the charge for the Christian doctrine of creation. For much of the time since Isaac Newton, physics has been the bastion of a worldview which leaves God out. A law-governed world didn’t seem to need a God to rule it. For a little while, it seemed like whereas physics might undermine faith, biology would restore it, since life is clearly not rooted in chance, but exhibits rich evidence of design. Then in 1859, biology became hostile terrain too with Darwin’s *Origin of Species*. Biology continues to be the fortress from which attacks are made, but physics has turned rather friendly.

But of course, physics is still the basis for the ideology of Christianity’s chief modern rival, scientific materialism. Physics, for scientific materialists, supplies the complete inventory of what there is, and lays down laws that can never be violated. Christianity has no quarrel with physics *per se*, and Christian physicists investigate the laws of nature in order to understand how God has ordered the world to work most of the

time. But for Christians, physics does not describe all that there is, and its laws can be overridden.

Chapter 8: Biology and Christianity

We're now ready to wrestle with one of the greatest challenges to the Christian faith in modern times. When the famous memoirist Henry Adams (1838-1918) was young, he prayed, he went to church, he had clergymen in his family, and religiosity, albeit only of a “mild deist” sort, was normal in his elite Bostonian social circle. Long afterwards, he wrote that “of all the conditions of his youth which afterwards puzzled the grown-up man, this disappearance of religion puzzled him most” (*The Education of Henry Adams*, chapter 2).

He was not alone, though. Many went the same way in the wake of the 1859 publication of Charles Darwin’s *Origin of Species*. A mild deism made a lot of sense in the 1840s, for if you weren't adventurous enough to believe in miracles, there was still a vast amount of order and design in living nature, which had to be explained somehow, and for which science had no explanation. Darwin supplied an ingenious and impressive story of how life came to be which did not rely on God, and thereafter, atheism seemed the most rational option for those who find miracles distasteful. There have been religious declines and religious revivals since then, but Darwinian evolution has persistently been a force tugging minds away from religion, and for recent champions of atheism such as Daniel Dennett (1942-) and Richard Dawkins (1941-), Darwinian evolution is the bastion of truth from which they launch their sorties against faith.

First, let's see what Darwin got right.

Charles Darwin’s great accomplishment was to explain why living creatures are adapted to their environments. In so doing, he transformed our understanding of the natural world by eliminating, or at least marginalizing, the Aristotelian notion of *telos*. Usually translated as “final cause,” *telos* could be variously rendered into English as *purpose*, *function*, *goal*, *fulfillment*, *perfection*, *flourishing* or even *happiness*, depending on context and with appropriate qualifications. Teleology was crucial to the way medievals understood the world, but it didn't fit into a modern scientific worldview. Darwin showed how it could be dispensed with, and replaced with a new kind of reasoning, which might be described as *reasoning from ecological equilibrium*.

Aristotle was a philosopher of enormous range, but above all, he was interested in biology. He thought it evident that purpose is important in understanding the biological world, so he made *telos* the most important of four kinds of “causes” that govern our world. For Aristotle, it is a general principle that nature is pervaded by *telos*, and he thought it is the *telos* of a stone to fall, or of a planet to move along a certain path through the night sky, in the same way that it is the *telos* of an acorn to become an oak. Since Aristotle was the single most influential philosopher in Western civilization for much of the next two thousand years, this teleological thinking became very widespread.

From the 17th century on, a new post-Aristotelian style of science swept through the Western mind, which displaced the old final causes with more exact and ubiquitous efficient causes, and saw a more lawlike and deterministic order in the physical universe, with less room for purposes to play a role. *Telos* no longer fit. And yet the whole biological world was evidently thick with functions and purposes. For a while, “natural theology” flourished, and the purposiveness that obviously pervades living nature was taken as indicative that a creative, personal God had purposefully created living nature, but that didn't really answer all the questions. Darwin changed that by elucidating how the continuous operation of natural selection, cogently labeled “survival of the fittest” by Darwinist thinker Herbert Spencer, ensures that creatures must perform some ecological function efficiently, and the parts of a creature must serve some purpose, for them to survive and reproduce. It dovetailed nicely with the new physics, and Darwin’s new theory quickly became the dominant paradigm in biology.

It works like this. At any given time, there is some variation among the members of any given species. Not all specimens survive, not all of those that survive reproduce, and some of those that reproduce have a lot more offspring than others. So each generation of a species may be different from the last. And it will be, *unless* the population is optimized in a particular way to make the gene pool stable. Odd, maladaptive features will be bred out of a population. Traits that are definitely superior will become universal over time. Minority traits can retain market share if they are beneficial when rare. A well-adapted species can retain some variety, but everything about it has a purpose in one sense, while in another sense, purpose isn’t at work as a causal factor. The appearance of purpose springs from the nature of equilibrium.

Richard Dawkins' famous book *The Selfish Gene*, to which my thought is much indebted, supplies a brilliant metaphor for understanding how ecological equilibrium maintains itself and shapes the biological world. Genes, a loose term for the minimum functional units of DNA, are in constant competition with each other, as they continue from generation to generation through the bodies of organisms that carry them. They are naturally immortal, cycling through the transient, disposable "somas" (bodies) of individual organisms, and using them as instruments for their own perpetuation. Organisms are sometimes therefore instinctively altruistic, most notably to kin, but the genes are ruthlessly "selfish," in the sense that the ways they shape human instinct, when not merely accidental, are always narrowly oriented towards their own survival.

Together, these selfish genes comprise the gene pool. From an evolutionary perspective, the species almost *is* the gene pool, or at least, the continuity and stability of the species depends on the continuity and stability of its gene pool. Some genes will be more common than others, but each gene must tend to maintain its market share, large or small, from generation to generation. If that's not the case, the species will change over time as evolution selects for some genes and against others. The species is stable to the extent that the gene pool is in equilibrium.

The stability of a species depends, among other things, on its being adapted to its environment. If it is poorly adapted, it may still survive, but it will come under strong selective pressure to become better adapted. The gene pool will shift over time, as some genes contribute to flourishing, and tend to multiply, while others detract from it, and tend to die out. The gene pool may allow for tremendous variety within a species, as we observe in the case of dogs. It is assumed that at some point divergent populations would lose the ability to interbreed and produce fertile offspring, thereby forming separate species, though as far as I've been able to discover, such "speciation" has not been observed in experimental settings for sexually reproducing biota. What applies to species applies loosely to whole ecosystems. All the gene pools of the various species are stable, and the populations are relatively stable, and the ecosystem is a great equilibrium, which would probably persist for thousands or millions of years if not interfered with. Evolutionary competition keeps the system in balance. That's why we can anticipate that a country's landscape will be similar if

we come back to it after many years or centuries, even if none of the specific organisms are still living.

Darwinian evolution rendered the Aristotelian idea of *telos* somewhat obsolete. Before Darwin, teleology was needed to explain the orderliness of life and the pervasiveness of evident purpose in the biological world. After Darwin, *telos* could disappear from the scientist's explanatory toolkit, a pleasing simplification of metaphysics. Adaptation, not *telos*, explained the variety of creatures in nature, and their stability. It wasn't some mysterious *telos* keeping them fixed, but ecological equilibrium. However they came about, species had to be a certain way in order to survive. Genes in the gene pool are in competitive equilibrium, reproducing themselves from one generation to the next just enough, on average, to retain their market share, and so the gene pool persists, and with it, the species. This kind of reasoning from ecological equilibrium has come to pervade modern biology. It allows biologists to fully appreciate the pervasive presence of purpose in living nature without making purpose a fundamental causal factor in nature. Purpose is a causal factor in a way. It does make sense to say, and is true in a sense, that a bird has wings for the purpose of flying. But that only means that it's an ecological equilibrium for birds to have wings because wings that confer the power of flight facilitate the survival and reproduction of birds, and that has long enabled flying bird populations to persist in nature in ecological niches where non-flying birds could not. Purpose is an emergent property, explained by the more fundamental fact of ecological equilibrium.

I will lean heavily on the concept of the selfish genes and the method of reasoning from ecological equilibrium when I make the case for Christian sexual ethics in chapters 11, 12, and 13.

Unfortunately, the useful practice of reasoning from ecological equilibrium as a way to understand the forms taken by life has been, from Darwin down, all mixed up with a wildly overambitious and downright fanciful story about natural history, called the theory of evolution.

The theory of evolution does not consist only or mainly in the claim that species change over time due to natural selection. It is the claim that *all* life on earth, or in the universe, emerged in no other way than through evolutionary processes of natural selection and mutation. All the seeming design of the living world emerged originally, by this account, accidentally, but because life forms self-replicate, and some self-replicate more than

others, lucky accidents were preserved, giving rise to the whole cornucopia of fascinating designs that the biosphere presents for our wonder, gratitude, and use.

Let's consider how a theory like this ought to be tested. What would it take for us to really be able to claim to *know* that Darwinian evolutionary mechanisms are powerful enough to have generated the vast, dazzling, magnificent, bewildering, ingenious, exquisite array of life as we know it? What evidence would we need to be sure that that's what really happened?

Well, first, it would be nice to have DNA from all the biota that ever lived, and living specimens of at least most of them. Let’s call them the Universal DNA Library and the Universal Zoo. And don’t let the word “zoo” make us forget that it includes plants, fungi, bacteria, and so on.

Of course, to keep specimens alive in the Universal Zoo at all, you would need to know something about the habitat, behavior, and diet of all these organisms.

But you’d want to know a lot more about the habitat than just enough to keep them alive, because you’d need to know what selective pressures the species faced. So let’s assume you know at least what species lived side by side over any part of their range at any time in history, and something about the temperature, weather, landscape, and nutrient or chemical environments of the places where each organism had historically lived.

You would need to thoroughly understand how the features of each organism made it well adapted to its environment.

Next, you would need to form a comprehensive system of hypotheses about ancestry linking all the creatures. For any creature X, you would have a hypothesis “X descended from Y, which descended from Z..., [and many more steps]... which descended from Q, the organism that emerged spontaneously from the prebiotic soup.” Then you would need to test all these hypotheses.

How would you test the hypotheses? Well, first, you would also need to know a lot about the population history of each species. How many of them lived, overall and in particular environments and historical periods?

Now comes the hard part.

For each link between an ancestral species and a descendant species, you would have to settle whether the change from ancestor to descendant could realistically have happened by chance mutation and natural selection, in one or more steps.

To do that, you would first need to catalog all the relevant differences between the ancestor and descendant species. Any changes in the genome that play any causal role in useful adaptations by the descendant that would have helped it survive would need to be explained. Because, in this scenario, the Universal Zoo is complete, you wouldn’t have to worry about intermediate creatures between ancestors and descendant species. If any such evolutionarily stable and populous creatures existed, they’d be in the Zoo themselves. The changes from immediate ancestors to immediate descendants would be the minimum evolutionary steps, which, if they occurred naturally by Darwinian processes, would need to have happened by chance mutation.

The next step would require great skill in the science of probability. For each useful change, you would need to calculate (a) the probability that it would occur, and (b) the probability that, having occurred once, it would be preserved in the population long enough to propagate through it. That gives you the number, so to speak, of sides on the dice that each species would have to roll in order to make the proposed evolutionary step. The historic population of the species in key adaptive windows is the number of rolls allowed. Then you could calculate the odds that a given evolutionary step could be successfully taken.

For example, suppose you want to know whether fish X could have evolved feature Y, maybe a different kind of fin, by chance, thereby turning into fish Z. To find out, you'd need to know (a) how many of fish X there were, (b) how often feature Y would appear by chance mutation, and (c) how likely a fish X newly endowed with feature Y would be to survive and reproduce enough to propagate feature Y and form species Z. If (a) is 10 million, and (b) is 1 million, then:

P(Y)=1-(999999/1000000)^10000000=99.9955%

where P(Y) is the probability that feature Y would emerge spontaneously in these conditions. We'd still need to check its likelihood of surviving, but so far, the proposed evolutionary step passes the probability test. By contrast, if there were 10 million specimens and the odds of Y per specimen are 1 in 100 million, then the odds become:

P(Y)=1-(99999999/100000000)^10000000=9.516%

This is not so good, and starts to jeopardize the theory that feature Y evolved, and by extension the theory of evolution in general, of which the evolution of feature Y is a part.

It could get worse. Suppose the odds of feature Y per specimen are just 1 in 100 trillion, and there were just 100,000 specimens of fish X. Now P(Y) is just 1 in 1 billion, or in other words, it's essentially impossible. The theory that Y emerged by chance would seem to need to be abandoned. And with it, seemingly, falls the entire theory of evolution, since if any feature must have emerged other than by chance, the claim that all of life emerged only by chance is false.

Now, it seems a lot to ask that *every* link in the vast evolutionary chain should pass this probability test, and the whole theory should be abandoned if even one link fails. Is there a way out of this exorbitant requirement?

There is, sort of. At any rate, there is a nuance that must be introduced here, which tends to mitigate the probability challenge. We must distinguish complexity from *specified* complexity. The concept is easiest to introduce using random number sequences.

Suppose I roll a die ten times and get 4, 2, 6, 3, 1, 1, 2, 6, 1, 3. There's nothing odd about that. That looks pretty random, and random is what we would expect.

But now suppose that just before I rolled, someone claiming a clairvoyant knowledge of the future wrote down on a paper the numbers "4, 2, 6, 3, 1, 1, 2, 6, 1, 3" and added, "Those are the numbers you're about to roll on this die." That would be very odd indeed. Either he really is clairvoyant, or he's rigged up a pretty impressive hoax.

What's the difference?

In the first scenario, the particular sequence of numbers was complex in a way, but there was nothing *specified* about it. Almost 6^10 other sequences of numbers would have been equally good examples of the thing it represents, which is mere randomness. So we can readily accept that it emerged by chance. It would be odd and silly to be impressed on the grounds that that specific sequence was *ex ante* improbable. The only cogent characterization of what happened was that a die was thrown ten times and a random series of numbers appeared. And that wasn't improbable *ex ante*, at all.

But in the second case, that sequence of numbers has been clearly specified as uniquely important. The cogent characterization of it is "the exact sequence predicted by the claimed clairvoyant." As such, it is unique, and it was very improbable *ex ante*, indeed, prohibitively improbable, under

the usual assumption that where a die comes down is random and unforeseeable. It proves there was something else going on.

Now, what if I roll a die ten times and get 1 every time. Intuitively, this would be very odd and surprising. But why? No one predicted it. It wasn't specified in that way. But it seems improbable because it exhibits a very striking pattern. The cogent characterization is probably not "ten ones in a row," because the specific number doesn't matter. I would doubtless have been just as struck by rolling ten twos or ten sixes. Perhaps it's "ten of the same number," or merely "a very clear numerical pattern." The point is that there is a clear pattern where there shouldn't have been one. A mere random series of numbers was overwhelmingly probable, yet somehow failed to occur. To settle the *ex ante* improbability of that, you'd first need to pick among various plausible candidates for the cogent characterization of the realized outcome. Or maybe you'd construct some kind of weighted average across these characterizations. Whatever you did would certainly confirm your intuition about the vast improbability of the roll.

The concept of specified complexity, easiest to make clear in dice game examples, is important to understanding the whole nature of science, but especially, in assessing the probability of Darwinian evolution.

Specifically, thinking about the probability of an evolutionary step in terms of specified complexity lowers the probability hurdle, because fin type Y might be just one of many fin types that would have been just as impressive and useful, so the emergence of fin type Y has an element of innocuous randomness in it that makes it less improbable. Suppose that alongside fin type Y, which emerged, there were the possibilities of fin types Y1, Y2, ..., Y1000, all of which would have been equally impressive and useful, though noticeably different. In that case, the cogent characterization of P(Y) might be, not "the odds that fish X would evolve fin type Y," but "the odds that fish X would evolve a fin type from the set Y, Y1, Y2, ..., Y1000." And that might often rescue evolution from a charge of prohibitive improbability, albeit at the cost of requiring a very high degree of biological imagination on the part of evolutionary theorists, as they spin out counterfactual possibilities of how life might have developed otherwise.

Now, my tentative feeling is that if this kind of analysis could be done, the evolution of life as we know it only by chance mutation and natural selection would turn out to be prohibitively improbable. But my tentative feeling should carry very little weight.

The important thing, rather, is that we don’t have the Universal Zoo, or the Universal DNA Library, or a thorough, tried and tested model of the probability distribution of mutations, or a comprehensive set of hypotheses about ancestor-descendant relationships, or the population histories of all species. We have impressions in old rocks, made by some hard body parts, dated by difficult and fallible chronometric exercises, used as the basis for uncertain reconstructions of what must be a tiny fraction of all the organisms that have lived on Earth. And we have no DNA of anything that lived much more than a million years ago. I have tried to imagine what information would be needed to do a thorough, responsible assessment of whether the emergence of all life through evolution was effectively possible, that is, not prohibitively improbable. The information we actually have falls very, very far short of that.

Richard Dawkins, the author of *The Selfish Gene* mentioned above, has another well titled book called *Climbing Mount Improbable* which may come closest to meeting the challenge of being a probabilistic audit of the theory of evolution. Yet it doesn't come close at all. Dawkins starts with another brilliant metaphor. He uses the symbol of a towering mountain to represent the complexity of life as we know it. On one side, the mountain’s face is a sheer cliff, far too high and steep to be climbed, and some mountaineers are standing beneath it and claiming that the summit will never be reached. But just go round to the other side, and you'll find a gently ascending slope. Dawkins claims that the evolution of life is like that, full of complexity that couldn't possibly have emerged by chance leaps, but which could be and was achieved in non-obvious gradual ways. But he doesn't remotely prove that Mount Improbable has this odd shape. The book is a fascinating tour of life, and full of interesting speculations about how flight might have evolved, how elephants’ trunks might have evolved, how walking might have evolved, and so on. But the book offers little or no evidence that the proposed evolutionary pathways were actually traveled by historical life. Never, except maybe in one case, does he offer any rigorous quantitative evidence that the evolutionary pathways actually occurred, or could have occurred.

That one case is spiderwebs. Dawkins describes the spider’s problem in great detail: the need for a net large and strong and just yielding enough without being bouncy, with the spider being close enough to its prey but far enough from its predators. Then he cites computer simulations that seem to

show something like the emergence of web patterns a little like those of natural spiders. With a good deal more honing, this simulation-based argument might actually establish that evolutionary mechanisms suffice to account for spiderweb designs. So the spiderweb simulations come close to being a good example of one drop of the kind of evidence that, if we had an ocean of such evidence, would begin to make evolution a well-substantiated theory deserving of belief.

But several biologists have conducted partial probabilistic audits from the other side, and proclaimed that it fails, and that therefore evolution, as a comprehensive theory of the origins of life, can't be true. For example, Michael Behe, author of *Darwin's Black Box* (2001), *The Edge of Evolution* (2007), and *Darwin Devolves* (2019), takes the probabilistic mindset to complex features of living things, assesses the adequacy of Darwinian mechanisms to explain them, and finds they come up far short. Likewise, Stephen C. Meyer, author of the 2009 book *Signature in the Cell*, focuses on the origins of life, for which the Darwinian theory of evolution doesn't work as an explanation, since natural selection can only operate *after* living things capable of metabolism and self-replication have occurred. He argues that the minimum viable living system would be prohibitively unlikely to emerge by chance, and therefore must have been intelligently designed. William Dembski, a master of probability theory, has helped these evolution skeptics formulate their arguments and become another champion of the emerging school of thought.

These thinkers are often called the "intelligent design" school, and I'll follow suit, though the label highlights the major fault of thinkers whom in many ways I greatly admire. From the failure of evolution to explain life, they tend to pivot to the conclusion that life was intelligently designed, while still saying that they are doing science. This confusingly mixes up a factual dispute with a merely semantic one. Scientists tend to think that the exclusion of the supernatural from their theories is part of what it means to be a scientist. This can be called "methodological naturalism," which is separate from the doctrinal naturalism that I've been calling "scientific materialism." Science hasn't always meant that, and there was a time when science freely borrowed ideas from theology and philosophy, but it's reasonable to use the term "science" *now* as its practitioners and probably the public now understand the term. It would be clarifying if intelligent design advocates framed their conclusions: "we have revealed permanent

limits on what science can know about the origins and development of life, but also, by the way, we're pretty sure we do know a way forward in understanding life, though it's not conventionally scientific." Instead, they tend to mix up scientific evolution skepticism with philosophical advocacy for intelligent design, while claiming or at least not explicitly relinquishing scientific credentials for their intellectual enterprise as a whole.

I would prefer to accept the mainstream definition of science, and say that the intelligent design school is strictly scientific, and quite persuasive, in their evolution skepticism, but step outside the limits of science when they advocate intelligent design. The atheist philosopher Thomas Nagel, in his book *Mind and Cosmos: Why the Materialist Neo-Darwinian Conception of Nature is Almost Certainly False*, takes a similar line, separating the negative arguments of the intelligent design school against evolution, which he agrees with, from the theistic conclusions, which he rejects. By contrast, I agree with the intelligent design conclusion, but I wouldn't characterize it as scientific. The scientific pretensions of the intelligent design advocates are in some cases politically motivated, since voters in the US who want alternatives to evolution taught in schools have often found themselves overruled by judges who claim that it's unconstitutional to teach "religion" in school, but permissible to teach "science."

Another semantic disagreement that I have with intelligent design advocates concerns the term "irreducible complexity," as used by Michael Behe for features of life to which there is no probabilistically tenable evolutionary pathway. I find this term clumsy because the complexity in question *is* reducible in a way. DNA is dissolvable into nucleotides, and proteins into amino acids, which in turn consist of atoms. There's nothing supernatural or magical about those molecules from day to day, as the term suggests to my imagination. A more descriptive phrase for what Behe means would be "evolutionarily unattainable complexity," but I'll use Behe's phrase since mine is unfamiliar and unwieldy.

Substantively, I can't independently confirm that the intelligent design thinkers have done their anti-evolutionist calculations right, though my intuition is strongly supportive. At any rate, I can see that they're framing the right questions, and the mainstream biological establishment, which is still dogmatically committed to Darwinian evolution, should respond by conducting its own probabilistic audits and seeing if it can get the opposite

result. Dawkins tried to do this, sort of, in *Climbing Mount Improbable*, though not very successfully. Others could try to do better. Instead, the intelligent design critique of evolution has generally been scorned and then ignored, its questions misunderstood, ridiculed and delegitimized, rather than answered. For biologists have many practical things to do, curing diseases and improving crops and educating the public and whatnot, and since evolution has worked its way into routine biological language in a way that makes it seem indispensable, they get very annoyed when the central tenet of the field is attacked.

The apparent but illusory indispensability of Darwinian evolution to biology is well illustrated by the way that, in biological writing, the phrase "have evolved" tends to appear whenever a striking and useful feature of a life form is described. All it really means is that a feature is adaptive. Probably not once in all of biology does it signify that a specific, detailed process by which a feature evolved from known past features of ancestor organisms has been thoroughly audited and found not to be prohibitively improbable. And yet it's true in a way, as biologists sometimes say, that all of modern biology depends on the theory of evolution. A Darwinian style of reasoning pervades biology, and is very useful. But the validity of such reasoning doesn't depend on the truth of the theory of evolution as a complete account of the origins of life. A modest notion of Darwinian ecological equilibrium, such as I outlined at the beginning of this chapter, is quite sufficient to supply an epistemic warrant for the kind of practical Darwinian reasoning that pervades biology and supplies testable hypotheses to help interpret living nature.

Biologists sometimes appeal to the authority of tradition, and pontificate impressively that Darwin's theory of evolution has been believed by most biologists for 150 years. But the theory's durability, in striking contrast with the vast changes that have occurred in more evidence-rich scientific fields, doesn't show that we know enough to prove Darwinian evolution true, but that we know too little to prove it false.

There is a kind of blind spot in the scientific method here, because it encourages scientists to make hypotheses and test them, but it doesn't have a good way to guard against hypotheses that are excessively elastic. The philosopher of science Karl Popper tried to fix this blind spot by making "falsifiability," the production of risky predictions that might fail and thereby prove the theory false, the criterion of whether a field of study is a

science or not. His hero, Albert Einstein, passed the falsifiability test with flying colors when he made specific predictions from his general theory of relativity, about the bending of light, and declared that, if the predictions were not confirmed, the theory would need to be abandoned. Many scientific theories, like the law of gravity, or principles in electromagnetism and chemistry, are abundantly falsifiable. Gravity, for example, could be falsified at any moment by any object randomly floating free of the ground, except that doesn't happen, because the theory of gravity is true. By Popper's account, real sciences pass the falsifiability test, and falsifiability is the distinguishing mark of real sciences.

What about evolution? Does it pass the falsifiability test? What facts would prove it wrong? It's not easy to say. If paleontologists find an old specimen that seems like the ancestor of a modern animal, that is taken as corroboration of the theory of evolution. But if old specimens seem to be the ancestors of no modern animal, that is no evidence against evolution. Presumably, those creatures went extinct somewhere along the way. And what if a modern animal seems to have no ancestors in the fossil record? That isn't really a strike against the theory of evolution, because it's well understood that most creatures don't get fossilized, and conditions may simply not have been propitious for the fossilization of those ancestors. The relationship of evolution to evidence has a kind of "heads I win, tails you lose" character. At the worst, new fossil evidence might add no particular corroboration to the theory of evolution. It can't refute it.

Yet there is one way that evolution should be vulnerable to falsification, namely by a probabilistic audit. It might be discovered that the ratio of the improbability of certain favorable mutations to the opportunities the history of life has afforded for such mutations to occur and be preserved is such that the emergence of those mutations by chance is prohibitively improbable. And that is just how the intelligent design school claims they have falsified it. What could falsify evolution is if there were just too much complexity for the proposed evolutionary mechanisms to have brought it about, and that is just how intelligent design champions claim they have refuted evolution already. Whether evolution deserves to be considered scientific in Karl Popper's sense depends on whether the biological establishment can really rise to the challenge and commit themselves implacably to abandoning the theory of evolution unless they can succeed

in refuting the probabilistic calculations of the intelligent design school, rather than keep trying to marginalize and silence the challengers.

Now, readers will probably have noticed that there is an intriguing parallel between physics and biology with respect to intelligent design. In both fields, features of nature have been found that would just be too unlikely to occur by chance. Intelligent design, though not exactly a scientific hypothesis, seems to some to be the only explanation that can rescue science from a cul-de-sac of intolerable oddity.

Yet from there, things have played out differently. Physicists have offered the multiverse and the anthropic principle as an explanatory alternative to the intelligent design conclusion, but they don't seem very fond of it, and its scientific credentials are very dubious, so the state of play seems like a respectful stalemate, with the theistic view of the Big Bang enjoying a comfortable tolerance without being accorded scientific legitimacy, as if physics says that it isn't science, exactly, but it might well be true. By contrast, biologists do like their theory of evolution very much, and furiously defend it against the intruders.

But if intelligent design is plausible in physics, then it's only fair to grant that it's plausible in biology. If you're not willing to accept the multiverse fantasy, but you do want a coherent worldview, you might reasonably conclude that theism is unavoidable. And if God caused the Big Bang, there's no reason He should have stopped there. To judge from His fine tuning of the universe to make stars and galaxies, He seems to like intricacy and variety. Why should He not have intervened on a favorite planet to make still more intricacy and variety there? God *could* have arranged for naturalistic evolution to occur by setting initial conditions and then standing aside, leaving it up to chance. But maybe chance-based processes like evolution wouldn't have generated as much interesting and beautiful complexity as God wanted, so He intervened to add more of it. He wanted His living designs to last for a while, so He made them in ecological equilibrium, just as painters paint in oil. But, by this account, mere ecological equilibrium is a constraint on but not a determinant of the inventory of designs nature sustains. That would make evolutionary biology a bit like a school of artistic criticism that tried to explain all great paintings entirely from the chemical properties of the oil base of the paint. (To this metaphor we will return.) Since either of these theories, purely chance-based evolution, or an evolution with intermittent infusions of intelligent

design by God, might have occurred, we need to look to evidence to help us decide. If the evidence appears to show that mere chance-based evolution was prohibitively improbable, then we don't need to sit around waiting for the evidence to say something different. We can conclude that probably the Big Bang Causer of 13.8 billion years ago stuck around and became the Life Shaper of the past is 3.8 billion years or so.

So far my critiques have addressed the theory of evolution as a whole, but I should mention that *human* evolution poses special problems. These problems have a moral aspect. If you think humans evolved from animals, it follows very naturally that the great moral distinction we make between animals and people is connected with that evolution. It would seem likely, too, that the processes that differentiated us from the beasts have proceeded further in some humans than others. That can lead to the disastrous conclusion, thoroughly put into practice by the Nazi regime of Adolf Hitler, that some people are more like animals than people, and can be treated like animals, killed, enslaved, and so forth.

But human evolution isn't just morally problematic but also implausible. Humans have glorious powers of language and abstract reasoning and art that set them dazzlingly apart from all beasts. Evolutionists are compelled by their faith to believe that this incredible transformation took place gradually, by natural, chance-based processes, and there have been dark speculations about “cave men” and “ape-men” and “the missing link,” but there's no empirical warrant at all for the idea that the distinctive human faculties emerged gradually. Anyone who is open-minded about divine intervention in the cosmos would surely conclude that the emergence of humans is probably one of these moments of special creation.

I will make no comment in this book about the historicity of the Garden of Eden, a topic about which I have no insight. As a parable of the human condition, though, it is very shrewd and penetrating. It explains, in what I would call a mythic fashion (but true tales can also mean in the way that myths mean, symbolically and imaginatively, so this is not a comment on its status as fact or fiction), some very mysterious, important, and stubborn truths about human nature. Our vast powers of reasoning and artistry are, according to Genesis, the legacy of our having been made “in the image of God.” We were also given a job: to rule the animals and tend a garden. And to this day, our love of gardening and especially of zoos bears witness to this original human vocation.

How can mere evolutionism explain why we love to stand outside the glass and look at lions and tigers, and more than that, how our hearts yearn to be inside the glass, and run our hands through the lion's mane, and feel the tiger's soft fur? Reason knows that, with the glass to protect us, we're safe enough. But instinct, which knows nothing of glass, ought to be screaming, “Get away!” Sometimes, no doubt, it does. I've known young children who feared the zoo because of all the dangerous animals. But there is nonetheless something that attracts us to the zoo. Why? We feel instinctive disgust and hatred for spiders and snakes and many insects and sometimes mice, and that's understandable. But why do we feel so much love for animals that will never profit us? Why do we even prefer not to profit from them, so that we are sorry to have to kill for food the deer that ran free with such grace? Why, unless it's because God wrote on the human heart a love for our first vocation? And isn't that also why most children's books are about anthropomorphized animals, and why we keep so many economically useless pets?

Above all, Genesis highlights, even if it hardly explains, perhaps the single oddest and most mysterious feature of the human race: clothing. All adult humans feel an extreme, nonnegotiable need to keep certain body parts hidden from strangers of the opposite sex. There are plenty of secondary reasons to wear clothes too, of course: for warmth, for safety, to carry tools, etc. But we still wear clothes when none of these apply. It's a high price to pay for being human! Clothes are often uncomfortable and usually expensive. Before the Industrial Revolution, every shirt or pair of trousers represented a lot of work. Not only is it hard to see how our shame at being naked could ever have evolved, it's hard to see how such an obviously maladaptive trait could have survived. Why didn't people burdened with an irrational obsession to drape themselves in weeds or animal hides lose out in the gene pool, relative to people free of these inconvenient hang-ups? And yet no one is free of them, not in the poorest cultures where clothing is hardest to come by, not in the rationalist West which prides itself on having discarded so many taboos and inhibitions. Genesis tells a tale of how the shame of nakedness is a kind of curse on mankind, a consequence of sin and alienation from God. That explanation hardly explains, but at least it seems commensurate with the weirdness of clothing.

The truest and most profound thing that can be said of the past is that we weren't there, so, with a few slight and patchy exceptions, we don't know what happened. But the human mind doesn't like blank spaces. That's why mapmakers in the old days drew dragons in the edges of the map, and the theory of evolution is the same kind of story, scrawled by ideological fancy on the parchment of ignorance. Darwin the analyst of adaptation is a very useful thinker, but Darwin the historian is only the latest panderer to the human credulity that once peopled Mount Olympus with Zeus and Hera and the rest of them.

Chapter 9: The Hollow Faith of Scientific Materialism

In the last two chapters, I've tried to show how there is a God-sized hole in science's picture of the world. It needs a Big Bang Causer and a Disentropy Supplier and a Fine Tuner of the natural laws to have made the universe so uncannily suitable for life. It probably also needs a Life Shaper, to have first made the amazingly complicated self-replicating metabolic systems and then intermittently to have added infusions of complexity and functionality, though we needn't insist on that point, since we can prove intelligent design from physics if people refuse to accept the proof from biology. But C.S. Lewis didn't know about the Big Bang, or the fine tuning of initial conditions and physical laws to make life possible, or the irreducible complexity of the information-rich macromolecules that form the basis of life. Nonetheless, he still knew perfectly well that scientific materialism is false, because things like free will and ideas and right and wrong are real, but not physical, and even more, because the authority of human reason depends on its having something other than a merely material basis. It's nice for a Christian apologist that so many recent scientific developments are in Christianity's favor, but the strongest arguments against scientific materialism are older and have a quite different basis. To these we know turn.

First, about free will.

Free will was discussed already in chapter 7, where we saw that the Heisenberg uncertainty principle, and quantum mechanics and subatomic randomness generally, make it harder to find footholds in physics for arguments against free will. But scientific materialism still can't really accept it. It is a good example of a phenomenon we know to be real, but for which scientific materialism leaves no room. Science accepts some types of causation and not others. It has gone from assuming used to assume a lawlike determinism throughout nature, to accepting subatomic randomness at the foundation of things, with lawlike determinism emerging at higher levels as microscopic variations cancel out. That required a revolution in physics. But to add free will to the causal mix would not only require another revolution, but make the reduction of all things to a physical basis impossible.

Scientific materialists are proud of rejecting magic and miracles, in the interests of trusting the laws of physics up apply more consistently than that, and of keeping evidentiary standards high, at least for extraordinary claims. What about free will exercised by human beings? There's no way to reduce that to the kinds of entities, protons and electrons and forces and so forth, which science makes the foundations of everything. To add that to the basic list of types of causation is to abandon the whole project of basing one's worldview entirely on science. And so, although they're often reluctant to advertise the fact, scientific materialists essentially have to classify human free will with magic and miracles, as a form of causation that is too odd and anomalous to be accepted in light of what science has revealed about the general nature of the world. The appearance of free will, like seeming incidents of magic and miracles, must be explained away somehow. Free will must be an illusion.

But we know it isn't. Our experience proves every day, every hour, every minute, that we do have free will. There is no more pervasive feature of human experience than free will and choice. Every day of our lives, it’s perfectly plain and indisputable to common sense that lots of things happen precisely and solely because *we chose* to make them happen. They were neither predetermined nor random. We know that we could have acted differently. So there must be something in us quite different from the deterministic or random order of physical nature, which was the source of these choices. Common sense and religious tradition call this something "mind" or "soul," regard it as non-material or supernatural, and make a sharp, unbridgeable, and very important distinction between people and things. And that fits our daily experience.

The experience of free will is so fundamental that if scientific materialists insist that we deny it, it's hard to see how they could claim a right to appeal to experience for any other purpose. Would they like to prove something to us by means of experiment? But for that, we must trust our observations. And the first thing we observe in this life is that some things happen because we choose to make them happen. If it’s possible for *that* to be an illusion, then anything else might equally be an illusion, so what authority can any experimental demonstrations of anything have? A mistrust of ourselves so radical that we can doubt free will should really lead immediately and irrevocably to total skepticism.

Moreover, choice is an inescapable ingredient in every experimental design. The only way we can know that more heat or more catalyst caused the chemical reaction in the test tube is that we know the only reason why there was more heat or more catalyst was the scientist's choice. If the scientist didn't choose, then whatever external factor caused the scientist to vary the heat may, for all we know, have *separately*, not through the heat, caused the chemical reaction to take place. As the statisticians emphasize, *correlation is not causation*. Just because B follows A doesn't mean that B was caused by A. And so many things happen that the number of possible causal links is endless. In order to isolate causation, we need some kind of inside information on the causes of some events. And we have that, because of free will. We know that some things happened just because we chose to do something. And we can compare the events that happen when we choose action *x* vs. those that happen when we choose action *y*, confident that the different causal chains began with our different choices.

From the baby kicking its legs to the great scientist carefully designing an experimental test of a far-reaching and original hypothesis, we learn about causation by choosing and watching. It's not clear how we would ever have conceived of such a thing as causation at all, if we didn't start with the power to impact the world through our choices. But for that, the flame might follow the match as winter follows summer, a reliable correlation that isn't a cause, and the whole universe might be like a film of a kaleidoscope display, with intricately patterned moving parts dancing a predetermined choreography, with no cause every that universal script. Only by choosing and watching do we discover pervasive, specific causality in the world.

To deny free will also has such subversive ramifications for ethics as to comprise a kind of *reductio ad absurdum*. We blame evil people for their bad choices, and praise saints and heroes for their good ones. But if there is no free will, they didn't really *choose* those actions. They just got lucky, or unlucky Circumstances and accidents made Hitler a mass murderer and Mother Theresa a tireless benefactress of the poorest of the poor. So we shouldn't really blame Hitler and praise Mother Theresa, should we? Without free will, all moral judgment loses its justice. But we all go on making moral judgments, so we must believe, deep down, in free will.

I don't actually believe that it's *conceivable* that one lacks free will. That seems uncharitable to a writer like Sam Harris, the eminent atheist writer

and denier of free will, since it basically means he's playacting, or deliberately deluding himself about his own experience. Yet since I know that the nonexistence of *my* free will is inconceivable *for me*, the only alternative to questioning Sam Harris's sincerity is to question his humanity, and I won't do that. I don't have introspective access to Sam Harris's subjective experience, so I don't strictly *know* that Sam Harris isn't an automaton, in the way that I know that I'm not an automaton. But I assume there's a pretty large package of features that go with being human, and form the basis of human dignity, and free will is definitely part of that. So while I can conceive of a world in which Sam Harris is an automaton while I have free will, I'm not willing to entertain that possibility. My principles of human dignity forbid it.

And yet Sam Harris claims that there's *experimental evidence* against free will. What are we to make of that? I won't try to describe the experiments, because I've never read descriptions of them that make it clear why they're considered convincing, but I have my own evidence to bring, showing that introspection can be mistaken about the scope of free will in small matters. I learned it when a comic hypnotist visited our campus, and introduced his act by having a student volunteer repeatedly to choose which half of a ripped piece of newspaper to throw away, till only one letter remained. He then showed that he had written it down in advance, and manipulated her apparently free choices to get a planned result. I was already a disciple of C.S. Lewis then, and believed in free will in the authority of introspection, so this was deeply shocking for me.

But on second thought, it's not about such minutiae, about choices that seem random and are completely unimportant, that introspection testifies strongly to the operation of free will. In such minor matters, we often feel like the pawns of what happens to occur to us, the flow of our thoughts, and that's mysterious, and might, for all we can tell, be manipulated from without. It's in morally important choices, where there is deliberation and grave consequences, that the experience of exercising of free will is most intense, and there it is not so easily embarrassed.

Introspective evidence is in one sense indubitable, and Descartes was wise to begin his philosophy from "I think, therefore I am," setting aside the senses, which can be deceived, in favor of introspection, which is more fundamental. Yet at the same time, introspection is stultifyingly *private*, and consequently rather untrained and inarticulate. Other people can't look at

our inward experiences and teach us how to observe and describe them properly. So while we may trust introspection itself, we need to be wary in framing claims based on it. We may sometimes need help from the external world to help us discern better what's going on inside us. But introspection can't be wrong about something as overwhelmingly clear as the existence of free will.

Just in case you make a hobby out of debating free will with secular friends, it's worth knowing about an annoyingly evasive philosophical position people sometimes take, called "compatibilism." Compatibilists claim that free will is compatible with determinism or randomness, and respond to denials of this absurdity by taking the whole discussion in a merely semantic direction. They ask, "What do people mean when they say 'free will?'" and then argue that what people mean by it is consistent with human choices being determined by natural laws. On that merely semantic question, it's impossible to beat them in the heat of an argument, since it would require, at minimum, a public opinion poll to settle it. The argument can only proceed by taking the rather barren form of rhetoric vs. rhetoric. And that's a victory of sorts, since it turns an attack on one of scientific materialism's most vulnerable points into a stalemate of rhetoric and obfuscation.

Compatibilism is interesting chiefly as evidence of how counterintuitive the denial of free will is, and the lengths to which people philosophically obligated by their broader worldview to deny free will will go in order to avoid denying it openly. The way to rebut compatibilism is to distinguish "compatibilist free will," which is consistent with physicalist determinism, from "incompatibilist free will," which is not. Get them to admit the distinction is conceivable. Then say you believe in incompatibilist free will, and you have no interest in "compatibilist" free will, but only in the question of whether incompatibilist free will exists. You might add that you don't believe for a moment that the expression "free will" as used by most people has a meaning that's compatible with determinism, but for the moment, you don't really care. It should be possible to get most compatibilists to admit that they deny free will "in your sense," and with that, compatibilism is out of the way, and a more relevant debate can ensue.

Ethics can help out more than just as a case study in free will. It also supplies entities, namely, moral right and wrong, evidently real and evidently non-material, which by their existence prove scientific

materialism false. C.S. Lewis, in *Mere Christianity*, began with ethics as a *metaphysical* problem. He pointed out that every time we quarrel, which is not mere fighting but involves self-justifying attempts to claim the moral high ground, we appeal to moral principles and standards. No normal person really, consistently denies these standards. But in a scientific materialist world, there can be no real ethics, no right and wrong or good and evil. What's the chemical formula of justice? What's the crystallography of hatred, and how many joules of energy comprise cowardice? Such questions are obviously absurd, and at least to that extent, ethics is obviously non-material. Attempts to embed ethics in a scientific materialist conscience inevitably reduce them to instincts and social constructs, undermining the *authority* that conscience and culture give to the moral law. "Ethics" rooted in mere genes and neurons is, as the saying goes, *all in our head*s. But I think we all know that the Holocaust was bad and self-sacrificing heroic actions that save lives are good *really*, not just in someone's opinion. Right and wrong are real, but they are not material, so scientific materialism is false.

Again, consider beauty. Something in us wants to say that sunrises and waterfalls and cardinals and Bach chorales are *really* beautiful, and mutilated corpses and highways besieged with billboards are *really* ugly. We might, however, be willing to accept the merely subjective character of beauty more easily than we would accept the nonexistence of objective right and wrong, or of free will. I think that would be a mistake, for the integrity of ideas is not ultimately separable from our aesthetic sensibilities, and if we don’t let a faculty akin to the aesthetic rule that green is real and grue is fake, then inductive reasoning itself falls down like a row of dominoes, and science with it. But that anticipates the arguments from reason later in the chapter. At any rate, beauty can’t really translate into molecules and energy. If molecules and energy are all that there is, then beauty isn’t real. If beauty is real, then scientific materialism can’t account for the universe.

Our powers to exercise free will and to perceive beauty and moral truth are aspects of *consciousness*, the life of the mind, the thought realm that each of us inhabits 24/7, and that's another thing we know to be real that scientific materialism can’t account for. We see everything else through the lens of this. Mind is more fundamental than matter in our experience, because mind is what we are, while matter is a mere deduction from

patterns observed. But if we were merely evolved from particles, why should there be subjective experience? How could there be? How would it arise? No mere complexity of apparatus could necessitate that. Computers are no more conscious than abacuses, or forks. We know that consciousness exists because we experience it internally. But for that, it's not clear how we would ever guess, from external evidence, that it's there. Consciousness is a completely different kind of phenomenon than anything that can be described by physics, or chemistry, or by the kind of biology that stays closely tied to chemistry and physics. You would never learn about consciousness by studying how DNA replicates and how proteins fold, or even how neurons fire. It is as gratuitous a feature of reality as a mural painted on a brick wall, and to explain it from the microphysical properties of the natural world is as vain as trying to explain why the mural on a brick wall features birds and sunflowers and smiling children, from the crystallography of the bricks or the chemical composition of the mortar.

Followers of scientific materialism generally don't claim that consciousness has been explained. Rather, they have faith that it will be. Science keeps explaining more and more things. Someday, they are sure, it will explain consciousness too, and maybe even produce it. And so science keeps chasing the chimera of "artificial intelligence," trying to make computers or robots with thoughts and faculties and experiences like those of people. But confidently to expect science to explain the human mind is to misread the trends. Science has gone on explaining more and more *about the natural world*, including human *bodies* in their merely physical aspect. The way we understand weather, plant growth. the properties of materials, electricity, stars and astronomy, health and sickness, rocks, fire, fungi, eyes, kidneys, and so forth has been profoundly changed by science. But science has contributed essentially nothing to our understanding of how we ought to live, what makes us happy, what we find beautiful, or how we think. When people want to know these things, they turn to cultural, not scientific sources, to proverbs or scriptures or poets, to religion and literature, not to science.

Psychology is the exception that proves the rule, for it has sometimes had a real impact on people's understandings of the human mind, but its status as a science is very questionable. Its most influential figure, Sigmund Freud, had a powerful impact on literature, but is now pretty thoroughly discredited as a scientist. The great psychologists have found niches in

intellectual history resembling those of philosophers, not those of pure scientists. Psychology has never generated an accumulating body of lawlike generalizations, validated by experiments and observations, and useful for predictions that become increasingly accurate and exact, like physics and chemistry. Psychology has been more like religion, with psychologists as its priesthood and the psychiatric couch a secularized confessional, with believers and unbelievers, participants and nonparticipants. It seems to have helped quite a few people, though far fewer than Christianity has, even as psychological schools have gone in and out of fashion. And none of the successes that psychology has had have anything to do with reducing the mind to a microphysical basis. Psychologists learn about people as priests do in the confessional, just by talking to them. A few mental problems do have neurological explanations. But if a person is mentally healthy and normal, materialistic science has no idea why.

Scientific materialists sometimes mock arguments for God or a supernatural soul from the scientific inexplicability of a phenomenon as a "God in the gaps" or "ghost in the machine" argument. Since science has often explained things that that were previously attributed to supernatural causes, it's folly, so they suggest, to argue from gaps in science's explanatory power to the existence of supernatural entities. Yet as I mentioned in chapter 2, it's very doubtful whether science actually has any track record of embarrassing Christianity, as distinct from paganism and popular superstition, by explaining away phenomena that had been presumed supernatural. And when it comes to the human mind, any such boasting on the part of science would be utterly delusional. Scientists have thought for generations that the human mind must be explicable on materialistic principles, yet their success in producing such materialistic explanations has been about as great as that of medieval alchemists trying to turn base metals into gold by mingling them with fire. Christians who have clung to the belief that the human mind is a supernatural affair, far from being embarrassed, can congratulate themselves that their old dogma not only remains completely unrefuted, but has spared them from falling for foolish fads and fancies such as Freudianism.

Scientific materialists are so habituated to letting assumed future discoveries complete their portrait of the omniscience of science, that it never seems to occur to them that the nearly complete failure of science to render the human mind explicable or predictable ought to disturb their

complacent belief in scientific materialism. Again and again, they play a game of “heads I win, tails, we flip again.” If a materialistic explanation succeeds, that vindicates faith in science. If it fails, that only discredits that particular scientific theory. It does not discredit science, or limit the scope of its explanatory prerogatives, in the least. They never let scientific materialism itself be put on trial. We just have to keep waiting for a better scientific explanation to come along. No frank seeker after truth should accept these rigged rules of the game. Science has achieved wonders in explaining the workings of physical nature, but it has had negligible success in explaining the wonderful powers of the normal, healthy human mind, in spite of lots of trying. It's reasonable to start drawing the conclusion that the human mind is not a part of physical nature, though it can penetrate and colonize physical nature in a limited way through the brain and the body. Man is, as C.S. Lewis said, "amphibian," inhabiting two elements, mind and matter. He is a supernatural soul in a material body. And again, that conclusion is a rejection of the scientific materialist worldview.

But the most fatal flaw in scientific materialism is that, after starting from rationalism, it cannot but end by attacking reason. If carried to its logical limits, it must rob human reason of its warrant for being believed, thereby pulling the rug out from under science and refuting itself. Scientific materialism is like the woodcutter who cuts off the branch that he is sitting on.

Let's start with a version of the argument from reason in the peculiar epidemiological idiom of this book, building on the kind of Bayesian rationality described in earlier chapters.

Let's say you start by framing a Scientific Materialist Conjecture, as follows:

SCIENTIFIC MATERIALIST CONJECTURE (A): All things that exist consist of matter and energy and are governed by the laws of physics.

Let's say you initially attach a 50% probability to the Scientific Materialist Conjecture being true. Because there is a large body of well-attested knowledge in physics, you can, in a sense, make a lot of predictions from the Scientific Materialist Conjecture that could be tested. But there's a trick here, since the Scientific Materialist Conjecture doesn't include specific laws of physics. So it's not necessarily damaged if an experiment yields an unexpected result. On the other hand, alternative worldviews may, as Christianity does, accept the laws of physics in general, while denying

that they cover all that exists and that they're perfectly reliable and exceptionless. In everyday situations, therefore, a Christian's predictions will probably be just the same as those that would flow from the Scientific Materialist Conjecture, and the fulfillment of such predictions would have no impact on relative Bayesian confidence in either rival worldview.

But let's suppose all these difficulties are surmounted somehow. The seeker is able repeatedly to frame P(B|A) and P(B|~A), where B is some event and A is the Scientific Materialist Conjecture, and keeps finding that P(B|A)>P(B|~A), and that B occurs. He therefore attaches ever-increasing probability to the Scientific Materialist Conjecture, until he is nearly certain that it is true, because it describes reality as he and others have experienced it. I hope at this point any scientific materialist readers are nodding complacently with approval, because I'm trying to represent fairly how I think a lot of scientific materialist convictions come about, and even more, how scientific materialists think they do and ought to come about. This is scientific materialism as realism, as a conclusion drawn rationally from experience. I've described this before, in chapter 3, where I set up a kind of race between the improbability of miracles and the improbability of the kind of spontaneous, motiveless conspiracy that would have been needed to fake the Resurrection. There, I conceded that the inductive case for the reliability of natural laws is very strong, and scientific materialism affirms and generalizes from that.

But wait a minute! What about Bayes' Law itself? What *is* Bayes' Law? Does the Scientific Materialist Conjecture apply to it, too? Does Bayes' Law consist of matter and energy? Is it governed by the laws of physics? The very suggestion seems absurd and inconceivable.

If the Scientific Materialist Conjecture is true, it would seem to follow that Bayes' Law, and numbers, aren't real, since they lack the quality, which is asserted to be characteristic of all things that exist, of consisting of matter and energy. But if Bayes' Law does not exist, how could we use it on our reasoning? And how could we be justified in adopting beliefs that come by applying a nonexistent law? And so the reasoning process by which our Bayesian scientific materialist arrived at his scientific materialist convictions is discredited by the ontological abolition of entities required by the reasoning process. The more scientific materialism is proved, the more it is disproved.

The argument from reason against scientific materialism doesn't specially arise from the peculiar epistemological idiom of this book. It's much more general than that. Any model of reasoning you can frame can easily be recruited to refute scientific materialism by confessing that it assumes non-material entities as part of the reasoning process. For scientific materialists, there's nowhere to run, nowhere to hide from the argument from reason. There are many forms of the argument from reason, all basically compatible and mutually reinforcing.

I like to start with the cleanest of them all: the argument from numbers.

What is the number two? How does it fit into things? Or what about a fact like 2+2=4? Clearly it would make no sense to ask "*Where* is the number two right now?" or "*When* did two plus two make four?" It would be even sillier to ask what the number two is made of, or ask how many joules of energy are required to transform two and two into four. Two has no time, no place, and no material substance. If the stars burn out and the galaxies disperse into dust, two and two will go on making four forever. Common sense takes numbers for granted, and science, far from weaning itself of the need for numbers, is particularly adept at applying advanced mathematics to all sorts of problems. But what is the metaphysical status of all this math? Is it real? Surely. It's not fictional or a matter of opinion. Old Plato made his students study math for years before he would teach them philosophy, for it helped them grasp his theory of eternal forms, and math stands ready, whenever we stop to think about it, to turn us into Platonists again. There could be math without nature, numbers relating abstractly in the void, but there could be no nature without math, for all its workings are governed by math. We can neither deny numbers not integrate them into a scientific worldview. We must admit them as immaterial entities, which invalidates the materialistic picture of the universe at a stroke.

But there's more, for it turns out that any application of math to the world requires that *ideas* be real too. To see why, consider the phrase "two cats." The cats must be different, else they would not be two, yet they must be the same, else they would not be cats. They may differ in accidental features like fur color or size, but that's inessential. Even if they have exactly the same features, so that they were indistinguishable, they are still two cats, comprising different matter, and occupying different positions in space. But they share *catness*, which Plato would expand on by saying that they both participate in the idea, the eternal form, of catness. That's why we

can count them. One, two. One cat, two cat. One instance of catness, two instances of catness. If we couldn't recognize them as two instances of some idea, we couldn't count them. There would be no continuity between one cat and the next to justify the continuation of a number series. So we need ideas like catness as a prerequisite for the scientific project of measuring and quantifying natural phenomena.

But where does the idea or category of catness reside? What is it made of? That's not quite as obviously nonsensical as asking for the chemical composition of the number two, since cats at least have a largely common physical constitution. But it's still pretty obvious that the *instances* of catness, not the idea of catness, are comprised of matter that has a chemical description. And a picture or a poem might also participate in the idea of catness in its own way, without its material substance bearing any chemical resemblance to the innards of cats.

Plato would locate catness in the realm of eternal forms, which is a better story than modern philosophers, who are addicted to trying to make the world safe for scientific materialism, can offer. But even modern philosophers recognize "the problem of reference." If I am thinking about cats, what does that mean? What is this relation of "aboutness" between me and my thoughts, on the one hand, and one or many really existing cats, on the other? It's another thing which we can neither deny the reality of, nor fit into a scientific materialist picture of the world. And as all reasoning about the world is full of reference, to believe in reference is a prerequisite for reasoning. But does the relation of aboutness that connects my thoughts to matter and energy itself consist of matter and energy? Is it governed by the laws of physics? How could that be? If we can't conceive of a physical basis for reference, then scientific materialism robs us of the right to refer to or describe the world by means of propositions. But statements like the Scientific Materialist Conjecture are propositions that purport to describe the world. And so, again, it destroys itself.

The phenomenon of *reference*, which connects our words and thoughts to things in the physical world by a relation that is clearly real but has nothing to do with physical contact, sets the human mind apart, at least as far as our experience is concerned. Other things *refer* only via the human mind. Thus, a physical book, consisting of ink and paper, refers to things outside itself, and has aboutness, but only through human readers. If a copy of *Moby Dick* somehow existed 30 million years ago, before the English

language or the human race, it would mean nothing. The ink and paper itself has no power to refer, to *mean* anything. It only has meaning through human minds in which it inspires thoughts. In the same way, nothing that happens in a computer means or refers to anything, except through human minds that supply inputs and interpret outputs. But the real marvel isn't just that human thoughts have this unique property of aboutness, this strange power of reference, but that they can refer to reality so *accurately*, perceiving so much of the grand pattern of the physical universe.

Suppose you went into an orchard, and after walking around its roads and paths for a while and getting to know its features, your eye is caught by something odd on the bottom of a leaf. On closer inspection, it turns out that the veins and markings on the bottom of the leaf form a perfectly accurate and minutely detailed map of the orchard itself. To find the human mind in the midst of nature and yet possessing the power to understand it has the same sort of oddity about it. The irony is that even as science supplies the materials for a worldview that denies human exceptionalism, it exemplifies human exceptionalism in a uniquely high degree. It's not just that no other species practices science, but that the ability to achieve prodigious feats of scientific understanding sets man wildly apart from the regular order of nature in which the traits of creatures mostly seem to be explained by the need to survive in some ecological niche.

I'm indebted to C.S. Lewis's book *Miracles* for first understanding the decisive force of the Argument from Reason. The form the argument takes in that book starts with distinguishing two senses of the word "because." On the one hand, "because" signifies physical causation, e.g., one billiard ball moved because another billiard ball stuck it. On the other hand, "because" signifies rational inference, e.g., it must have rained because the streets are wet. Lewis points out that we always treat physical causation of belief—for example, I only thought something because I was tired or drunk—as disproving its trustworthiness. Only rational inference gives us a pathway to true beliefs, and when physical causation interferes with the workings of the mind, competing with rational inference as a cause of belief, the mind becomes unreliable. If you believe in reason as a supernatural faculty, you can still admit that its interface with the brain can be a source of interference and damage. But if human beings were reducible to a material basis, then *everything* we think would come from the equivalent of being tired or drunk. *All* our beliefs could be explained away as merely a function

of biology, of evolved instincts or chemical accidents, and we would have no reason to trust any of them. I can't do justice to Lewis's argument here, but if you haven't read the book, it would be well worth reading it to help drive these points home. The philosopher Victor Reppert (1953-), in his 2003 book *C.S. Lewis's Dangerous Idea: In Defense of the Argument from Reason* refines C.S. Lewis's argument and defends it against a variety of criticisms.

Somewhat separately, there is an argument from reason specifically against human evolution, articulated, among other places, in Alvin Plantinga's (born 1932) 2011 book *Where the Conflict Really Lies: Science, Religion and Naturalism.* It focuses on the implications of claims about the evolutionary origins of the human race for the reliability of human reason. If human beings evolved, *merely* evolved, most recently from apes, and ultimately from microbes, then all our features, including our powers of reasoning, ought to be explained as adaptations for survival and reproduction, our own and that of our selfish genes, in some ancestral environment. But in no environment of evolutionary adaptation that natural history attests could the latent capacity for true inference in advanced realms of math and science plausibly confer an evolutionary advantage on human beings. Why should we have such powers of reasoning then? If we know by introspection that we have the *feeling* of making true inferences in such matters, can we trust such feelings? Why?

To a limited extent, an ability to reason accurately may be adaptively advantageous, but it's not hard to imagine cases where false convictions would be adaptively advantageous. A man in sexual pursuit of a woman will probably benefit by convincing her that he will love her forever, even if he's more likely to seduce and abandon her. He'll be more persuasive if he genuinely thinks that he will. So delusions about his own likely fidelity could be adaptive, and in fact, such opportunistic beliefs in sexual affairs do seem to come naturally to men, and we see this drama play out all the time. For the same reason, women seem to have a propensity for making, with great conviction, promises of lifelong, faithful love that they often won't keep, and in general, the whole field of romantic love is littered with broken promises that bear witness to instincts driving us to convictions other than the truth. It's all very consistent with C.S. Lewis's argument that when physical causation intrudes in our thoughts, they become unreliable. If our

powers of scientific reasoning were merely evolved, why should we trust our scientific conclusions any more than the oft-broken promises of lovers?

Moreover, most biological features have a cost, and whether they're adaptive or not depends not only on whether they're useful, but on whether they're worth the cost. That's why we shouldn't be surprised that human beings can't fly, even though flying would obviously be very useful. It's not feasible to fly with a body plan remotely like ours, but there are other advantages, such as strength and proficiency in walking and grabbing, that make our body plan adaptive even at the cost of flightlessness. If having a latent capacity for scientific reasoning is at all costly, then not only should natural selection not have favored it in our ancestral environment, it should have selected against it, breeding it out of the population by killing off the people whose genes wasted resources on maintaining a latent capacity for science.

Is latent scientific ability biologically costly? We can't say, because we have no idea how a capacity for scientific investigation arises from the molecular matrix of the kind, and we never will, because, as we have glimpsed already, scientific reasoning depends on communion with a transphysical realm of Platonic ideas and is an essentially supernatural faculty, on which scrutiny of neurons will never shed any real light. But never mind that for now. Let's suppose for the sake of argument that latent scientific capacity is a merely biological phenomenon, and is at least somewhat costly to the organism that maintains it. We can't see how it could possibly have been adaptive in our ancestral environment, but we seem to have it, so maybe either it was adaptive in some inscrutable way, or maybe it simply arose by accident and selective pressures weren't strong enough to wipe it out. On the other hand, what if it were adaptive, not so much to have powers of scientific discovery, as to have a propensity for merely for self-confident scientific belief? We might be wired, not to discover truth, but merely to think we're right. How would we know?

And even if we do manage to come up with arguments for the trustworthiness of reason that we find convincing, is that because they're true, or just because we're evolved to think they're convincing? In general, if ever the basic reliability of reason is questioned, there's no escaping a treadmill of infinite self-doubt. If the reliability of reason is doubtful, then I might try to frame arguments in its defense. That's difficult. But even if I succeed, and develop arguments in defense of reason that sound convincing,

is that because they're true and sound arguments, or because part of the inherent fallibility of my reason consists of being unable to discern the falsity of certain arguments in defense of my reason? But we can't avoid stepping into the treadmill if the first step in our ontologies is to deny the fundamental and primary reality of anything but the entities studied by physics. If I have to derive mind from matter, I can't be sure *ex ante* that mind is reliable, and if I don't start with faith in reason, then I can't establish the reliability of reason through any reasoning.

The irony, then, is that Darwinian evolution, if true, is evidence against itself, because the humanity it describes would have been unable to discover the truth of Darwinian evolution. If Darwinian evolution is true, then it's most likely false, because the humanity it describes would be more likely to have a propensity merely for overconfident mythmaking than for a latent capacity, quite useless in the ancestral environment, for genuine discernment and discovery in advanced and subtle topics such as biological natural history. More generally, if we trust scientific materialism, we must ultimately come to doubt reason, because efforts to frame scientific materialist accounts of the origin and nature of human reason inevitably undermine its trustworthiness. If, on the other hand, we insist on the authority of reason, we must recognize it as a reality independent of and superior to mere physics, thus rejecting scientific materialism.

I don't think this bias of scientific materialism against reason is a mere abstraction. I see in the history of the human intellect in recent centuries a tendency to turn against reason when the scientific materialist worldview is in the ascendant. The most striking case of this is the Soviet Union, where scientific materialism was integral to the official philosophy of the regime, and where reasoning minds and free thought were comprehensively subjugated and muzzled. Marxism tends to reduce reasoning to economic interest: one argues in favor of property rights because one is a bourgeois. It's not a bad theory if you've rejected a supernatural origin of human reason and it has to come from somewhere. But the consequence is that there's little motive for tolerating argumentation from the other side if it's only class warfare by other means, and so it became unsafe to speak your mind in Soviet Russia. In my lifetime, I feel as if a similar, though less severe, turn against reason has taken place as irreligion has become more widespread. As scientific materialism and the theory of evolution rob human reason of the supernatural authority that it ultimately derived from

the Christian doctrine that man was made in the image of God, reason tends to be reductionistically explained as the expression of class interest. You say that because you're a man, or because you're white, or a member of some other privileged category. There's no need to address your arguments. And so, on university campuses and in many large organizations, it becomes dangerous for dissenters to speak their minds, since dissenting arguments seem like mere treason against the arc of history, mere reactionary class warfare by other means.

Be that as it may, enough has been said to establish the falsity of scientific materialism. It fails because there are too many things evidently real which are incompatible with it. There is free will. There is moral right and wrong. There is objective beauty. There is consciousness. There are numbers. There are ideas. There is the mysterious phenomenon of *reference*, linking thoughts in the mind with things in the world by obviously non-physical means. And there is the human power, long largely latent, to form an amazingly rich and complex map of reality. The coherence of scientific materialism as a worldview depends on fitting everything into a framework founded on physics. But many aspects of reality refuse to fit into that cage. Reality is just more complicated than that. Meanwhile, the universe has a beginning, and scientific inquiry cannot reach behind it to see why it began. It needs a cause other than itself, especially since the original conditions of the Big Bang and the laws of physics are fine tuned to support life. The nature of the scientific enterprise sets limits on what it could potentially explain, and much of reality lies outside those limits, so if we want to understand the universe, we need a different worldview that is not so dependent on science for tying everything together.

Christianity is the opposite of scientific materialism in two major ways that make it, *prima facie*, a promising candidate for succeeding where scientific materialism fails. First, it makes mind more fundamental than matter. Instead of matter coming first and mind evolving from it, a mind, namely the mind of God, came first. All the special features of minds, reasoning and ideas and free will and so forth, can therefore be accepted as we find them and don't need to be given material explanations. Philosophy of mind is still a difficult subject, but at least it need not be burdened with the impossible quest of reducing the mind to a byproduct of physics and chemistry.

Second, Christianity tends to multiply, rather than reducing, the variety of entities that are acknowledged to be real. Where scientific materialism contradicts common sense by denying free will, Christianity challenges common sense by affirming the existence of angels and devils and miracles. There are things like magic and pagan gods that most pre-Christian people have believed in, but science and Christianity join in rejecting. Yet even here, Christianity does not have official doctrines that deny the existence of magic or pagan gods. Long before the Enlightenment, there were Christian leaders who thought that magic and pagan gods were simply non-existent, but plenty of other Christians thought they might be real, and Christianity didn't rule one way or the other. What Christianity insisted was that Christians shouldn't worship pagan gods or practice magic, nor need they fear them, for the power of Christ was superior. But they might be real in some way. Popular belief in fairies persisted in northern European countries for centuries after they were converted to Christianity. Often, Christians believed in witches, in women who sold their souls to the devil in exchange for magical powers which they used for evil, and occasionally, alas, they killed people on charges of witchcraft. As science has purged people's minds of beliefs in witches and magic and pagan gods and fairies, Christianity has rarely resisted, and if anything, has generally approved and/or helped, yet it's revealing that these subtractions from the inventory of what is held to be real weren't really spearheaded by Christianity. Christianity isn't generally in the business of denying the existence of things. It is the champion of a richer reality, with more things in it.

A disclaimer is needed here, because I'm not exactly going to say, as the flow of the argument might lead people to expect, that Christianity achieves the grand coherence of truth that scientific materialism fails to achieve. Christianity is not a "theory of everything" in the way that scientific materialism aspires to be. It is more like a roadmap to the kingdom of heaven. Compared to the know-it-all propensities of scientific materialism, Christianity is willing to let much of reality be somewhat mysterious. A roadmap doesn't need to tell you everything about a country. It might do well to include a lot of wrong roads, to help you get back on track if you make a wrong turn, and to describe landmarks and landscapes, to help you identify where you are by looking around. But it should omit a lot of distracting details to help you focus on finding the right roads. To a certain extent, Christians are kept by God on a need-to-know basis. I'm not sure

that there's anything Christianity forbids men to study, though a certain kind of curiosity about devils or sexual perversions could be unhealthy, but there are plenty of topics about which the Church offers no guidance, leaving it to individuals to discover what they can, if they wish.

What I think Christianity does is to offer a coherent system of enough beliefs to live by. A well instructed Christian knows what he must believe, what he must not believe, and what he may believe or disbelieve as he sees fit. He can trust Christianity to have audited the mandatory beliefs for coherence and consistency, even if he can't always see why they're consistent. He can feel reasonably confident that the optional beliefs won't contradict the mandatory beliefs, though of course some of them might contradict each other. He'll fall into inconsistency if he adopts the forbidden beliefs while still trying to be Christian, so he should avoid that. In practice, his mind will be full of optional beliefs that Christianity doesn't specially endorse, from his own address, to how to make fried chicken, to the heliocentric theory of the solar system. It would be very impractical to try to have no beliefs except what the Church teaches. But it's not disastrous, in the eternal perspective, if he gets some of these wrong. It might be disastrous in a natural sense. If he misidentifies a mushroom, or the repair needed by an aircraft, a false belief on a non-doctrinal question may kill him, but it won't damn him. Nor is belief enough: salvation depends on attitudes and actions as much as on beliefs. But Christianity gives him enough knowledge to keep him on the right road. A man who confidently believes all that Christianity teaches, confidently denies all that it condemns, and is tentative about everything else, is well equipped to direct his efforts and deal with the chances and changes of life in a way that makes his life worth living and his soul capable of salvation, even if he never knows about the Jurassic period or the law of conservation of angular momentum, and can't solve a differential equation.

And so a lot of the questions that I raised in arguing against scientific materialism will not be answered in the course of my explanation and defense of Christianity. In particular, my study of human reasoning has led me to adopt, at least as a placeholder, a kind of Platonic idealism, whereby I affirm the independent reality of ideas. That raises a lot of questions about what ideas *are* and *how* they relate to their instantiations in the world. But I won't try to answer those questions, because Christianity doesn't. It avoids some of the critiques by which scientific materialism comes to grief by not

making such strong claims, at the cost of leaving the mind with large regions of unknowns. But it gives us enough to live by.

Now, as I mentioned before, it's difficult to organize a book, because the text has to flow from left to right, page after page, beginning to end, yet the argument may be naturally more branching than that. This is a Choose Your Own Adventure moment. The next four chapters represent a kind of detour, or digression. At one level, the chapter that most naturally follows from this one is chapter 14. That's where I embark on a sweeping exposition of the Christian worldview, the great alternative to the failed worldview of scientific materialism. And you may understand chapter 14 best if you skip the chapters in between, so that this chapter and the argument leading up to it are fresh in your memory. Another reasonable Choose Your Own Adventure option is to proceed to chapter 10, which explains the rough concordance of Genesis 1 with scientific natural history, and then skip to chapter 14. Or again, you might skip to chapter 14, then back to chapter 11, which deals with ethics and the Golden Rule, and then skip back to chapter 15 to read about the ethics of Jesus. Anytime you skip in a book, there's a risk that you'll miss something that is necessary to make subsequent material understandable. I won't guarantee that that's not the case here, and that all these Choose Your Own Adventure options will strictly “work,” in the sense that there will be no unintelligible references, no dependencies. But I think you should do will right if you choose to go that way.

The reason I've organized it the way I have is that I think a lot of modern readers won't be ready to take the Christian faith seriously because they think either that (a) Christianity is discredited by its indelible connection with a false view of natural history, or (b) Christianity is discredited by its primitive, joyless, irrational, and outdated scruples about sex, and so they won't be able to muster much interest in what it has to say about the larger themes of Creation, Fall, and Redemption. So the next four chapters address what might be called the “hot topics,” that is, topics about which historic Christian teachings happen to be especially controversial in contemporary Western civilization, of Genesis 1 and creationism, and of chastity and sexual ethics. Concerning the first, I show why the text of Genesis 1 clearly implies a “day-age” interpretation, after which an effort to fit the “days” of Genesis 1 with scientific natural history works surprisingly well. Concerning the second, I show why combining the insights of sociobiology about the natures of the sexes and their asymmetric desires,

needs and jealousies, combined with the strangely commonsensical yet also quixotic principle that we should do unto others as we would have them do unto us in their place, leads directly to the full panoply of Christian sexual rules, which, far from being irrational taboos, are precisely the wisely discerned secret of rationally managing sexuality to make us good and happy. That should be enough to go by if you want to skip straight to chapter 14. If you need to understand these points better, turn the page.

Chapter 10. Genesis

Some people are attracted to Christianity, but blocked from accepting it by disagreeing with it on one or two issues. These days, I think the likeliest deal breakers are Genesis and sexual ethics. Christianity's central message that God's good creation has fallen, but is being redeemed through Jesus Christ, comes with a rich package of historical and ethical teachings, which must all be more or less accepted for a person to achieve proper membership in the Christian church. Any of them might be a stumbling block to faith, and in various times and places past, people have been alienated from the faith by the doctrine of the Trinity, the abrogation of circumcision and the old Jewish law, the prohibition of polygamy, the teaching that a good God created the world, the faith's refusal to worship ancestors, and many other points. Today, because of the particular beliefs and values that prevail in the contemporary West, I think the commonest reasons to rule out Christianity are the teachings in the book of Genesis about the creation of the world, and the Christian rules of sexual ethics. This chapter deals with Genesis.

The problem is that if you open the Bible and start reading, the first thing you read, in Genesis 1:1-2:4, seems to be an account of the creation of the world that is revealed by modern science to be wildly false. It tells how the world was created by God in six days. The first day, He made light and darkness. The second day, He made a "firmament" to separate "the waters above" from "the waters below," which sounds as if the biblical writers were so ignorant that they thought the sky was a hard dome of some sort. On the third day, dry land and green plants were made, and only *then*, on the fourth day, does God place "lights in the heavens," which might seem to mean that He created the sun, moon and stars. By this account, plants would have preceded the sun whose light is their food. On the fifth day, birds and fish were made, and on the sixth day, land animals, and human beings. Don't we know that all of this is completely wrong? And if the Bible discredits itself from the first word, where does that leave Christianity?

I dealt briefly in chapter 4 with the Bible, its peculiar significance and authority, and why Christians never quote the Bible in order to contradict it. In general, it's a mistake to oppose faith to reason, and to believe in the Bible on faith against the testimony of reason. If you can't see how

something in the Bible could possibly be true, it's probably worse than useless to try to force yourself to believe it over the resistance of your rational mind. You don't understand it, so leave it alone. Many Christians, unfortunately, do believe, based on Genesis 1, that the world was created in six 24-hour days, and while in general, my purpose in this book is to defend Christianity and not to argue with my fellow Christians, in this case, I do need to push back some. The fossil record strongly suggests that the world is far more than six days older than the human race. And the inference of a Big Bang 13.8 billion years ago from the gradual expansion of the universe is not only extremely plausible, but also dovetails brilliantly with the Christian doctrine of creation, as we saw in chapter 7. Reason doesn't support the idea that the world was made in six 24-hour days.

And anyway, does Genesis 1 even say that? Let's take a closer look.

I don't know Hebrew myself, but what I've read about it agrees that the Hebrew word for "day," *yom*, like the English word *day*, can mean (a) a 24-hour period, (b) the light part of a 24-hour period, or (c) an indefinite period of time. As an example of (c), I could say that “in Julius Caesar’s day, the Roman republic was in crisis,” and no one would think the "day" in question had anything to do with 24 hours or the rising and setting of the sun. At its most basic, *day* is the opposite of *night*, and *a* day is the light period between the rising and setting of the sun. When we say “ten days” to mean ten 24-hour periods, rounded off a bit, that might be metonymy, as some languages say “ten summers” to mean “ten years.” But if I ask “what day is it?” at 10PM, day clearly means *date*, and in this sense it *includes*, rather than being opposed to, night. More specifically, a date includes one day and *part* of *two* nights, with two consecutive midnights marking its beginning and end. Of course, that’s just a human convention, and culturally specific at that. It’s possible to use “day” to mean a 24-hour period starting at an arbitrary hour rather than midnight. If I give you a document at 4PM and say, “Get this back to me within a day,” you might conclude that I mean for you to return it by 4PM tomorrow. But since that’s not very clear, I would be better advised to say, “Get this back to me within 24 hours.”

In the sentence “in Julius Caesar’s day, the Roman Republic was in crisis,” the clue that “day” means a longer period and not the light period between sunrise and sunset, or 24 hours, is that the conditions and events defining the “day,” namely a man’s lifespan and a political crisis,

characteristically occupy more time than that. Similarly, the “days” of Genesis 1 are described by happenings that naturally take a lot of time, from which it ought to be clear that these are not daily intervals of light, or 24-hour periods, but much longer. This is sometimes called the "day-age" interpretation of Genesis 1, and I think it's clearly right simply as the only natural way to read the text of Genesis 1, regardless of anything modern science has to say.

For example, on the third "day," according to Genesis 1, “the earth brought forth vegetation, the plants yielding seed, and the fruit tree yielding fruit after its kind, whose seed is in itself, upon the earth” (Genesis 1:11). Now, plants take months or years to grow to the point where they can produce seed. For the seed to go on and produce the same kind of plant again requires another full generation. It doesn’t happen in 24 hours.

On the fourth day, God puts “lights in the firmament of the heaven to divide the day from the night [to mark] signs, and for seasons, and for days, and years” (Genesis 1:14). Obviously, it’s impossible for the sun, moon and stars to mark out seasons and years within a 24-hour period.

On the sixth day, God made all the land animals, according to Genesis 1, and then, if we combine the creation narratives of Genesis 1 and 2, let Adam meet and name all the animals, and discern that none was a suitable helper for him, before putting him to sleep and making Eve. One problem here is that animals take more than 24 hours to grow up.

We can, if you like, suppose that God miraculously accelerated the growth of plants and animals so that what normally takes years occurred in one day. But why make such a strange supposition, a supposition not encouraged by the text, when it can be avoided simply by interpreting the word "day" as "period of time?" In any case, a miraculous fast forwarding of nature doesn't help with the fourth day. Presumably God *could* have made the sun, moon and stars move through the sky faster, but then they wouldn't be marking out seasons, days and years. It takes time to mark time.

The clincher for me is Adam's naming of the animals. It's one thing for God to miraculously fast forward natural processes. It might be so. God is omnipotent, and often inscrutable. But Adam is a *human being*, so we have a feel for what conduct is plausible. Would a man who was presented with all the animals, one by one, to name them, and see which might be a good companion for him, be in such a hurry that he'd name hundreds or thousands of animals in only *part* of one 24-hour day? Try to picture him

carrying out his job at top speed, as the animals march before him for examination: "Tiger. Still lonely. Next... Raccoon. Still lonely. Next... Eagle. Still lonely. Next..." It's impossible! No human being could behave with such ruthless efficiency in the face of so much animal cuteness and grandeur. He'd stop to dote and pet and play, or to admire and marvel, and to get acquainted, and finally give the animal a name to crown his enjoyment and love. That's the only way he could even remember the names. It would certainly take time to *teach* the animals their own names, which seems like it might be the point of naming them at a time when Adam had no one to talk to. And his judgments that the animals were not suitable helpers would be worthless if they were arrived at with such unseemly haste. Why should he hurry anyway? He had all the time in the world.

No, the story of the naming of the animals is spoiled unless Adam takes the time to do it right. No imaginative sympathy with it is possible without acknowledging that it must have taken a lot of time for Adam to get to know all the animals, to the point of giving them names, but also to discern that though he surely loved them, they couldn't cure his loneliness. It's impossible to do justice to the text of Genesis 1-2 without letting the sixth "day" mean a period long enough to allow Adam to get acquainted with the animals properly.

And I think there's a deeper reason why it's unacceptable to suppose that the time-consuming processes in Genesis 1 were magically fast forwarded to fit in 24 hours.

The words “And God saw that it was good” occur five times in Genesis, after the creation of light and darkness, dry land, green plants, lights in the heavens, and fish and birds. After the creation of animals and people, the words change to "And God saw that it was very good," signaling completeness. I don't think it's possible to do justice to those words unless the things made are given *time* to *be themselves*. The word "saw" implies a certain separateness of the Creator from His creation, like the separateness of a workman from the worker when he puts down his tools, stops his perfectionist fussing, and looks with satisfaction and admiration on a good thing completed and built to last. God, in His omniscience, could presumably have *fore*seen that the things He was creating *would* be good. But that’s not what Genesis 1 says He did. He saw the things He made,

really existing, outside Himself, and saw that they were good, in their own autonomous natures.

We, too, know by experience the goodness of the things that God saw were good in Genesis 1. We admire the stars; our planet with its lands and seas; the greenery of living and growing plants; the heavenly bodies that mark times and seasons; the animals of sea and air; and land animals. And the goodness that we appreciate in the natures of these things is inescapably connected to *time*, such that they could not be fully and properly appreciated in a day. It is wonderful in plants that they grow so slowly, imperceptibly from moment to moment, and yet accomplish splendid transformations over the course of the seasons of a year. Likewise, to fully enjoy an animal, you want to see both its playful babyhood and also its mature strength. And you want to see the succession of generations, especially mothers nurturing their babies. Likewise, to fully appreciate the drama of land and sea you want to see the tides come in and out, and rain fall, and rivers run to the sea, and foggy days, and storms. For God to properly see the goodness of the things He made, He must have watched them for much more than 24 hours.

The young earth creationists have another card up their sleeve. It's not just the word "day." Another refrain of Genesis 1 is “the evening and the morning,” as in “the evening and the morning were the first day” (Genesis 1:5), repeated after each of the “days?” Don’t they suggest a 24-hour interpretation after all?

Yes and no. But mostly no.

Here it would be especially nice to know Hebrew, but from what I read, the Hebrew word for “morning,” *boker*, also means “order,” while *erev*, the Hebrew word for “evening,” also means “mixture” or “confusion.” Later, I'll make use of the interpretive options that gives us.

For now, consider, first, that a 24-hour period consists not only of evening and morning, but of other times, such as midday, afternoon, and night. Only about one-third of a 24-hour period would normally be characterized as “evening” or “morning.”

Second, “evening and morning” is oddly backwards. The most basic meaning of a day is the light period between sunrise and sunset. Evening is the *end* of a day, while morning is its beginning. If a period starts with evening and ends with morning, that period isn’t a day, but rather, a night.

Third, of all times of day, evening and morning are most visibly and sensually connected with the movements of the sun. Evening is when the sun sets, and darkness gathers. Morning is when the sun rises, and its light fills the sky. We might need a clock to recognize noon and midnight, but evening and morning we can see with our eyes.

But *there was no sun* on the first three days, according to a literal reading of Genesis. Only on the fourth day did God put the sun in the sky to mark the days. So there cannot have been any evening and morning in the usual sense, characterized by the movements of the sun that define those times of day.

If the biblical text were trying to tell us that the "days" were 24 hours long, saying "the evening and the morning were the first day" would be a very clumsy way to do it. Evening and morning don't add up to a 24-hour period, they bookend a night, not a day, and they're associated with movements of the sun that couldn't have been observed on the first three "days." No, evening and morning have quite a different meaning here.

I think it's quite deliberate and important that evening and morning are in *reverse order*, as if the days went *backwards*, starting in dusky evenings and proceeding to bright mornings, mixture and confusion giving way to light and order. I think this symbolizes something important about natural history. To this I'll return.

If the days of Genesis aren't 24 hours, they must mean *something*. I think some people regard Genesis 1 as a mere poetic ramble through the beauties of nature, meant to be evocative of the glory of God. Maybe. But the chronology of Genesis 1 seems too deliberate and emphatic to be a mere poetic flourish. It would be nice if Genesis 1, once the days are sensibly interpreted as ages, turned out to fit in with natural history, as it is believed to have happened by modern science. Does it? Actually, I think the fit is surprisingly good.

The concordance starts even before the birth of light. In Genesis 1, before the first day, Genesis says that "God made the heaven and the earth" and "earth was without form and void" and "darkness was upon the face of the deep" and the Spirit of God moved "on the face of the waters." This "earth," this "deep," these "waters" might be as good a description as natural language affords of the stuff of the universe immediately after the Big Bang, which was dark and dense like earth, only much more so, but presumably also formless and fluid, like water. Water also seems to have

been a conventional symbol of primordial chaos in the ancient Near East. God made good use of that convention by describing the primordial dark chaotic mass after the Big Bang as "waters."

The first day of creation in Genesis 1, which starts with “Let there be light,” and shows God creating light, called Day, and darkness, called Night, strongly invites interpretation as the Big Bang and the formation of stars. More exactly, “Let there be light” is a good description of the moment, shortly after the Big Bang, when the universe became transparent, and light burst forth through the vast empty spaces, thought to be about 380,000 years after the Big Bang. The “night” that follows might be the “Cosmic Dark Ages,” after the Big Bang faded, but before the stars lit up. It culminated in the night sky as we know it, with the day and night separated, albeit not temporally, as in our experience, but spatially, with day near the stars and night in the great spaces between.

The second day, when God separated the “waters”— by an ancient Near Eastern convention symbolizing the formless materials of a primordial chaos— above the “firmament”— the sky— from the “waters” below, might describe the formation of planets in general, and Earth in particular. The “firmament” of the sky is not, as that word might suggest, solid. Yet it is a formidable shield. Earth is blessed with a magnetic field and an ozone layer that protect the surface of the Earth from harmful rays and particles from outer space. It is also a great gulf of separation, since Earth’s field of gravity mostly sweeps the immediate vicinity of Earth clear of matter. And it’s fitting that the text emphasizes the separation of “above” and “below,” for planetary gravitation organizes space locally into *up* and *down*. Earth formed, as a molten ball of lava at first, with no dry land, around 4.5 billion years ago.

The third day of creation in Genesis 1, if we continue developing this concordance of scripture with natural science, would refer to the formation of liquid water, and the formation of the oceans and of dry land, as well as the emergence of life, defined by self-replication, “producing seed after its kind,” and of photosynthetic or plant life in particular. Both of these events probably occurred between 4 billion and 3 billion years ago.

The fourth day of creation in Genesis 1 is puzzling at first, because it says God placed the sun, moon and stars in the heavens. But clearly, the sun shone long before the green plants appeared. It was the source of the light that plants needed in order to live. Science also thinks that Earth formed out

of the solar nebula and was roughly coeval with the sun, not older. As for the stars, there were stars for billions of years before Earth, and we have already assigned them a place on the first day, as the source of the day that God separated from the night.

But what if the fourth day refers not to the creation of the sun, moon, and stars, but to the time when they became visible from the surface of the Earth, such that they could mark times and seasons and serve as a calendar? I got the idea from this passage in Ward and Kirschvink's 2016 book *A New History of Life*:

It took almost a hundred million years for the invading multicellular plants to change from small marine forms to the world-covering forests that were present by the end of the Devonian period [about 360 million years ago]. In one respect, these plants had a far more significant effect on the land than the long-reigning microbes did, for the multicellular land-plant invasion utterly changed the nature of landforms and soil. It also changed the transparency of the atmosphere, for as more and more plants spread across the land, the restless sand dunes and dust bowls that had been the unceasing landforms of the Earth until that time were transformed. Roots began to hold the grit and dust of the land in place to a far greater extent than did the land-dwelling bacteria, which, as single cells or even thin sheets would have had little strength; as the primitive plants died and rotted in place, thicker and thicker soil began to form, and the ragged, rocky landscape that had always been Earth began to soften. From space the very air itself would have cleared; for the first time the edges of continents and seas, of large lakes and rivers would have become visible from short and great distances alike.

This clearing of the atmosphere when the roots of land plants held down the dust and turned it into soil was just the last stage in a longer transformation. Long before, the oxygenation of the atmosphere began, as oxygen, a byproduct of photosynthesis, accumulated and would have burned off other gases, like methane. The oxygenation of the atmosphere was a precondition for the complexity and size of life growing to the point where it could settle the land. The fit with Genesis 1 is that from Earth's surface, it probably looked as if the sun, moon and stars were being created for the first time. At any rate, they began to be visible on Earth, as on no other planet in our solar system that has a thick atmosphere, reliably enough to be used for a calendar.

The fifth day of creation in Genesis 1, by this account, would describe the emergence of animal life in the seas, starting in the Cambrian period, 560 million years ago. The text of Genesis 1 would seem to require us to believe that animal life in the air emerged around this time as well. Animal life emerged very quickly. All the animal phyla we know today are thought to have appeared within 10 million years.

The sixth day, the emergence of land animals, started about 470 million years ago if we interpret it as including arthropods, or 360 million years ago if we think the focus is on vertebrates. I suppose God probably doesn't share our bias for liking vertebrates better than arthropods, so maybe the earlier date is a better reading.

If this is the meaning of the days of creation in Genesis 1, the chronology turns out to be, not a mere poetic flourish, but important and true. The appearance of light, and the separation of day from night, did occur before the formation of planets, which occurred before the formation of Earth's oceans, which occurred before the appearance of photosynthetic life, which occurred before the clearing of the atmosphere and the rendering visible of the sun, moon and stars, which at least began to happen before animal life in the seas, which occurred before animal life on land. But there's more to this scheme than setting things in order of what happened first. The truth is not just chronological but causal. There *had* to be stars before there could be planets. There *had* to be planets before seas and life. There *had* to be photosynthetic life to oxygenate the atmosphere, and oxygen to support animal life in the seas, and animal life in the seas before it could invade the land. God's works on each day are dependent on those of the last, as a necessary, though not sufficient, cause.

Importantly, these days *don't end*. I think that's why Genesis 1 keeps saying "the evening and the morning." There seems to be a kind of rhythmic progress in natural history, where periods of chaotic change, described by Genesis 1 as *erev*, evening, repeatedly burst out, then, after a while, settle down into great, orderly equilibria, described by Genesis 1 as *boker*, morning, that continue indefinitely. The chaotic periods do not disrupt the previous orderings. The night sky goes on, not disrupted, as planets form. The planets go on, not disrupted, as life forms. And so on. Later orderings may occur *within* earlier orderings, being too small to affect them much, but though smaller, they are if anything even more intricate and impressive. And I think that each of the "days" in Genesis describes just such a phase in

the ordering of the universe, with an “evening” of creative chaos followed by a “morning” of beautiful and majestic order. That's why I'm not troubled by the mention of "fruit trees" on the third day of creation. There were no fruit trees in the time when photosynthetic microbes first emerged and began their slow work of cleansing the atmosphere. The fruit trees we know are angiosperms, and as such are a much later development, less than 150 million years ago, long after animals invaded the land. But they are also photosynthetic life, part of the ongoing third day of creation.

The great orderings of the world that Genesis describes are all still with us. And the evening and morning are in reverse order because time was, in a sense, running backwards. The Second Law of Thermodynamics tells of a world of increasing entropy, of a slow victory of chaos over order, in which pattern is overtaken by decay. But, in a sense, all of natural history seems to be an exception to the Second Law of Thermodynamics, even if that means no more than that only the exceptional cases where order emerges from chaos are worth talking about. And that’s what Genesis 1 describes.

The bursting forth of the universe in the Big Bang was a time of rapid, violent and chaotic change, up to the time of the formation of the stars. Then a kind of equilibrium set in, familiar to us as the night sky, with its countless stars, each one held together by gravity and burning through its atomic fuel so slowly that the vast majority will last for billions of years, shining with a light that, by the time scales of living creatures, is perfectly steady and imperturbable. The evening and the morning were the first day.

The formation of planets like Earth was a very violent process, with matter from the solar nebula being smashed together by gravity and melting from the heat that from density, plus the energy of those impacts and its own radioactivity, with gases belching up out of the lava seas, and at one point an impact of amazing force ejecting a huge chunk of matter out of the young Earth to settle into orbit and become the moon that we know. But at last, this confusion gave way to a new order, in which a new thing, a planet, locally organizing space into up and down, could persist largely undisturbed for billions of years. The evening and the morning were the second day.

The formation of the planets did not disrupt the stars, because the planets were too small for that. The morning/order of the first day was still there, but now the morning/order of the second day was nested within it.

I find it fascinating that the two refrains of Genesis 1, “And the evening and morning were the *n*th day” and “And God saw that it was good” are out

of sync at this point in the story. There is no “And God saw that it was good” on the second day. But this is said *twice* on the third day, once after the gathering of the waters into seas so that dry land appeared, and once after the creation of the plants. This seems significant.

Geologists call the first few hundred million years of Earth’s history the “Hadean” Era, meaning hellish, for Earth was a little like an old-fashioned painting of Hell in those days, all fiery and molten. It was a *boker*, an order, but it did not yet qualify as good, or maybe God didn’t see fit to describe it that way to us because it isn’t a kind of goodness that we can appreciate. Of course, most of earth is still like that. If you could go straight down a couple of hundred miles you would find the old, molten, "Hadean" Earth still there. That's a little scary if you think about it.

But how well we can appreciate the good things God made on the third day! We watch with delight the gathering of waters through rain and rivers into seas with their splendid tides and waves. We watch with a different delight the green world of plants, the grasslands and forests and meadows and pine-clad mountainsides and all the rest of it. These are *different* goods, and separable. The aesthetic feeling of admiring a thunderstorm, or a sleepy blue ocean, even as our feet are firm upon the safe ground, is very different from our love of a garden or a forest, of greenery and growing things. And there was probably a world of rain and seas before life, and a much longer period when rain and seas were great and general and life small and special. So it is fitting that they’re separately praised as good.

Why, then, are they included in one “day” in Genesis 1? Maybe because their origins were chronologically close, or overlapping, and perhaps causally interconnected too, if life somehow helped Earth retain its initial endowment of water. At any rate, together they comprised an order that lasted for billions of years before multicellular life emerged, and that order still persists today. And the evening and the morning were the third day. And the third day did not disrupt the first day or the second day. Rain and seas and life were too small to alter the Earth spinning on its orbit, much less the stars. The new order was nested within the old.

In the case of the atmosphere and the visible heavens, too, there must have been a long time of flux and chaos, when volcanoes and life and dust storms and the outputs of changing life kept changing the atmosphere and the visible heavens, followed by the stably transparent and oxygenated atmosphere that we know. And the evening and the morning were the fourth

day. And then the flux of the Cambrian explosion gave rise to the relatively stable animal phyla that have persisted ever since: the evening and morning were the fifth day. And so forth. Again and again, each new ordering left the previous orderings in place, though not always because of size. The land animals of the sixth day aren't too *small* to affect life in the sea and air, but rather, spatially separate, at least for the most part. The pattern is that each completed ordering of nature persists, and each new ordering depends on and fits into the last.

We are the heirs of all the days at the same time. They are all still with us. It is still the morning of the first day, with light and darkness separated in the great pattern of the night sky, and God still looks upon it and sees that it is good. It is still the morning of the second day, with the matter above the firmament separated from the matter below. It is still the morning of the third day, with water still forever being gathered into seas to leave the land dry, and God still sees that it is good, and the plants go on growing and producing seed after their kind, and God still sees that that is good, too. It is still the morning of the fourth day, when we may look up through the transparent atmosphere at the sun, moon and the stars, and read our calendar from their great dance, and God looks on it and sees that it is good. It is still the morning of the fifth day, and the seas and the air teem with moving creatures, and God sees that it is good. And it is still, quite often, the morning even of the sixth day, in spite of all we have done to mar it by our sins, and men are delighting in all creation, like the images of God they were meant to be, and happily cultivate the earth, and admire the free animals, and tenderly love their tame ones.

The biggest problem with this concordance is the creation of *birds* on the fifth day. Birds as we know them definitely didn't appear until hundreds of millions of years after animal life invaded the land. It helps that, as a translator friend of mine assures me, the Hebrew word there really means "flying creature." The first flying creatures are much earlier than the first birds. But I think paleontologists date them to around 400 million years ago, while animals began invading the land around 500 million years ago. So the chronology is still wrong.

I can't help but wonder if science will, in due course, prove Genesis 1 right on this point, too. Doesn't it seem likely that (a) flight came first after all, but (b) science misses this, because it isn't evident in the fossil record, partly because the first flight was done with soft body parts, but especially,

because creatures living on land fossilize on land, but flying creatures don’t fossilize in the air?

Richard Dawkins, in *Climbing Mount Improbable*, points out that the vast majority of animals fly, because the vast majority of animals are small, and it’s relatively easy for small animals to fly because the ratio of potentially lift-generating surface area to downward-pulling weight is higher. So when animals were smaller, flight was easier. And it would have been advantageous. Any aquatic prey animal might benefit by being able to turn airborne to escape predators. For that purpose, the longer they can stay airborne, and the further they can go, the better. And flight, once learned, offers other advantages, such as faster travel because thin air offers so little friction, and longer visibility for general scouting, or more specifically for finding mates.

For most sea creatures, moreover, the air is far *nearer* than the land. Most points at sea are hundreds or thousands of miles from land, but most sea creatures live near the surface, where sunlight feeds microscopic plants for their food, so the air is always easily accessible to explore. And it’s less dangerous, because if a sea creature goes on land but can’t live there or find its way back, it must die, whereas an unsuccessful venture into the air only means falling back into its watery home. Modern birds fly with bony wings that can fossilize, but giant squid fly with soft body parts, shooting themselves out of the water like water rockets, and then twisting their soft, flexible bodies into aerodynamic shapes for gliding. Might the first flight have been like that?

A charming image wafts through my mind of the Cambrian seas blooming with colorful low-flying creatures at a coordinated mating hour, repeatedly squirting up and gliding over the water and spying or sniffing or singing, as they look for love. And then they either didn't fossilize at all, or didn't fossilize in ways that enable us to recognize their ability to fly, so we don't know about it.

Well, the science is rather fluid, with frequent new discoveries, and I’ve only scratched the surface of textual exegesis of Genesis 1, so we shouldn’t expect too good a fit. But far from being embarrassing, and a reason to disbelieve the Bible, the fit between Genesis 1 and scientific natural history, once we get past the misconception of 24-hour days, strikes me as impressive enough to be a minor reason to believe the Bible is divinely inspired, after all.

Nonetheless, I'm left wondering why the text exists, and at some level, what it means. What was God trying to accomplish in inspiring Moses (the author of Genesis, humanly speaking, according to tradition) to write it, especially when, given the limited scientific understanding of Moses and his fellow Hebrews, it would inevitably somewhat misleading?

I have two guesses to offer. First, God provided just enough truth to inoculate the Hebrews and other readers of the Bible against fashionable falsehoods. Genesis 1 rebuts a thousand fanciful, corrupt creation myths. And since humans *will* believe *something* about the origins of the world, it was better to supply as much truth as they could handle, as a placeholder for what they would learn in future, than to leave a dangerous blank in the mind on which any fashionable fancies would soon be written.

Second, and more importantly, Genesis 1 settles a question that haunts us all, and that needs to be authoritatively settled because we, in our weakness and confusion, would otherwise endlessly flutter among impressions and doubts: whether nature is good. It is. And ever it has been. At times, we feel this very strongly, when looking up at the stars on a fair evening in June, or seeing a waterfall or a garden or a running horse, or hearing the songs of birds on a spring morning. But we also get bored quickly. How many of us have the strength fixedly and without distraction to admire the stars even for an hour? Reflecting on our own propensity for boredom, we might well doubt whether our own aesthetic impressions of the infinite value of a starry sky or a blossoming orchard have any merit, intense as they seem at moments. Genesis 1 answers with awesome authority: “And God saw that it was good.” Like us in our best moments, God, too, looks on stars and seas and forests and flocks, and admires.

And here the revelations of science about the age of the earth enter the argument like trumpets to glorify the divine majesty. For *how long* did God admire the works of His hands? It seems that He was satisfied to behold nothing but the night sky for a billion years or more, before He felt the need to create the planets. He was contented with a lifeless planet of wind and rain and stormy seas for probably a few hundred million years before originating life, and then for a couple of billion years more, He was content to soften the seas with microbes and slowly cleanse the atmosphere, before He felt the need to make the first animals.

Can we enter the mind of God at this point, and understand His purposes and His state of mind? I think the point of Genesis 1 is that we

can, a little, and it’s there to help us. The words “And God saw that it was good” come just at the moments when something has been made which we, at our best, can admire with poetic ecstasy. Light and darkness and the starry sky. The seas and the dry land. Greenery and fruit and flowers and woods and meadows, and everything that drinks the sunlight and grows. And again, the heavens, this time seen from Earth, with sun and moon and the sublime rhythms of the sky. Then seas teeming with fish and skies full of birds, and beasts treading the land. Yes, we know and love it all. An ambitious real estate developer, seeking the key to the preferences of high-end buyers for whom money is no object, might do worse than read Genesis 1. What do we humans like? How do we prosper? Ocean views, gardens, skylights to see the stars, sculptures of animals, maybe an aviary and a fish pond... it’s all there in Genesis 1, all the good works of God, the enjoyment of which is the best life for men. What a world God made for our delight!

This ability of humans, and of them only, to understand and admire the whole material universe, is one of the strangest and most fascinating facts in the material universe, and Genesis 1 highlights it spectacularly by saying that man was made "in the image of God" and that only after this was creation "very good," as opposed to merely "good." Yet if this conclusion elevates human dignity, how much humility is also taught to the human race by Genesis 1. How tiny we are compared to the vast works of God! How infinitely far short we fall even of being the good stewards of nature that we were meant to be! And how inferior the mere caretaker of a thing is, even the worthiest caretaker, compared to the maker of it. That we were made to be the rulers of nature rings true. We must rule over nature, a little, just to survive, and we want to do it for pleasure and fascination and love. But we cannot rule very much of it at all, and even that, badly. We are too weak, and not wise enough, to live up to our born vocation.

In the past, Christians were of course awestruck by the power of God as revealed in Genesis 1, and the vast size of the universe as modern science reveals it should amplify that wonder. They were occasionally impressed still more by God's speed, making so much in just six days, yet if anything I think the slowness of creation, the vast durations involved, make the story even more awesome and humbling.

Try to imagine yourself on the early Earth, younger but still hundreds of millions of years old, when there was no life at all, but only rain on the rocks, and tides rolling in and out, and storms, and rivers, and waves, and

waterfalls, and towering mountains, some of them volcanic, and wind, and clouds. Set aside for the moment that there was no oxygen so you could not live. Would you like to be there? Would you like to see it? Do you feel a horror of that loneliness and lifelessness? Surely. But don't you also feel a longing for that grandeur, the austere majesty of those barren mountains, or the shimmering beauty of those rippling waters on a calm day? If you could travel back in time for an hour, a day, maybe a week, who would decline the offer? And yet a month would be too long for most, and who could accept such an exile for a year? Why? Is it nature's poverty or ours that sets a limit on our enjoyment? It is our own weakness. God has the strength to enjoy the rocks and waves for hundreds of millions of years.

And so it is with all the "days." We might yearn to behold the slimy seas or the green lands before animal life for an hour or a day, but God looked on a garden Earth unmolested by any animal for billions of years, continually seeing that it was good, and that is a measure of His superiority to us. We might enjoy seeing the world of fish and flying creatures and nothing else for a day or even a week, but God attended to and admired His fluid-dwelling creatures for a hundred million years, with no need to proceed to the next act in the great drama. Boredom is not the least of the stains of original sin on human nature, but God is quite free of it. Let us marvel! And let us remember that God's world is good. I even suspect that this is why God concealed the vast age of the Earth behind a vague and gentle word like "day." If men long before Christ had been forced to contemplate billions of years, their own extreme comparative transience would have made it impossible to persuade them that they mattered at all. And yet God has now revealed to us our own immortality, and we shall live, as C.S. Lewis said, to remember the stars as an old tale. We had better aspire to much greater capacities for enjoyment, if we are not to become bored.

I beg the reader's indulgence for concluding the chapter in verse. Poetry has a mnemonic effect. It also somehow helps the mind to focus on aesthetic appreciation and wonder. It seems only fitting to turn to poetry when I feel overwhelmed with wonder by the magnificent works of God. So here's Genesis 1, as elucidated by scientific natural history, in verse.

Creation

O God, You made this world for us
What a wondrous gift You've given!

You clove the light from the darkness,
Countless stars bejeweled the heaven.
And you lit the world with splendid day,
Then hushed it to the cool of night.
How beauteous is the interplay
Of the darkness with the light.
And You saw Your works, and beheld they were good
And we behold the same
As all creation teaches us
To glorify Your name.
From swirling dust You wrought the Earth
And shielded it with the sky
And You instituted south and north,
East and west, and low and high.
And there bubbled up from the molten ball
Gases that became a misty shroud
And the first rain began to fall
Out of those churning clouds.
The rain filled mighty seas that rolled
Beneath the vaulted sky
On clear days, water mirrored
The castle clouds on high
You made fair and stormy weather
And rain fed into rivers clear
As You gathered the waters together
And made the dry land appear.
And You saw Your works, and beheld they were good
And we behold the same
As all creation teaches us
To glorify Your name.
And then You kindled amidst the sea
A strange phenomenon
Tiny things that drank the light of day
And made seed after their kind
And they filled the sea and o'erspread the land
And some grew into towering trees
That swayed and rustled in the wind

And trembled in the breeze.
And as green plants o'erspread the land
Roots clutched and held the earth
And dimming clouds of windswept sand
Were tamed to fertile dirt
Plants purified the atmosphere,
Revealing sun and moon and stars
Whose perfect dance marked out the year
And made Earth's calendar.
And You saw Your works, and beheld they were good
And we behold the same
As all creation teaches us
To glorify Your name.
Somewhere amidst those slimy seas
You made living things that move
And soon they swam and walked and flew
And burrowed, leaped and dove.
As You formed them into thousands of shapes
They flourished, spread and multiplied
Till fish teemed in the seas and lakes
And birds adorned the skies.
And some beasts came onto the land
And roamed the hills and woods
And You looked on all the works of Your hands:
It was almost very good,
But there was none but You to enjoy it all
So in Your own image You made man
In size, halfway between great and small
With a mind to understand.
And because we are made in the image of God
We can most fitly praise
The works of God are very good
We marvel at Your ways!

Chapter 11. The Golden Rule

We next turn to sexual ethics, as the other great stumbling block for a modern mind considering Christianity. But we'll have to come to it a long way round, for the whole basis of ethics has been thrown into confusion in a peculiar way since the Enlightenment, as the philosopher Alisdair MacIntyre showed in his 1981 classic *After Virtue*. Modern readers have so little in common when it comes to reasoning about ethics that we need to start at the beginning. We need to start with "meta-ethics," the study of what moral rules *are*, before we can apply the principles to the ethical rules surrounding sex.

The Enlightenment philosopher Thomas Hume encapsulated the modern challenge of ethics when he argued that you can't derive an "ought" from an "is," that is, a statement of ethics from a statement of fact. That's counterintuitive because we derive "ought" from "is" every day. I borrowed ten dollars from him, so there *is* a debt that I owe, and I *ought* to pay it back. She *is* feeling depressed, so I *ought* to cheer her up. But there's always a tacit claim of moral principle helping us get from "is" to "ought." I should repay the $10 because I borrowed it (a fact) *and* people ought to pay their debts (a moral principle). I should cheer her up because she's feeling depressed (a fact) *and* people should help those in need (a moral principle). Normally, we don't state the moral principles because we assume them. But for a philosopher, the moral principles themselves need justification. And if we want to settle a disputed point, such as whether chastity is morally meritorious or morally irrelevant, then we need to uncover and critique the moral principles that underlie the various opinions, and see which of them stands up to scrutiny.

Already in chapter 9, we argued from the reality of moral principles to the falsity of scientific materialism. Moral principles are real, but they are clearly not reducible to matter and energy, therefore the scientific materialist picture of the universe cannot be complete. And inasmuch as it claims to be complete, it cannot be true. Some philosophers have reversed this reasoning, arguing that because scientific materialism is true, and a scientific materialist universe has no room for moral principles, therefore, moral principles are not real. (Fortunately, I don't think they practice what they preach.) But it's not clear why we should reject something so urgently

and pervasively experiential as our feelings about right and wrong, in favor of something so tenuous, and in some ways so remote, as the scientific materialist picture of the universe. Still, ethics does need a place to begin. We should be able to rationalize ethics more than just to say we feel strongly that some things are right and some are wrong.

And so I'll offer two entry points into a more robust and rational ethics.

First, I, and no doubt all of us, have strong, ineradicable feelings about how I ought to be treated by others. I feel *indignant*, not merely disliking but *morally* condemning the turn of events, if I am gratuitously assaulted, or if I am cheated or lied to. I have reason to think that others are like me, members of a human category, differing in some ways but the same in essentials, making us capable of mutual sympathy. I can notice all sorts of similarities between myself and them in their expressed thoughts and feelings, in the kinds of impressions they experience and the powers of reasoning they exhibit. It's reasonable to extrapolate a more comprehensive similarity, including a faculty of moral indignation, and strong intuitions on their part that they *ought* to be treated in certain ways. And I should therefore grant the same authority to those feelings in others as I must regard my own as having. The word "conscience" comes from "with" (*con*) and "knowledge" (*science*): think of it as knowing that one is among others like oneself, and therefore constrained to respect their rights and accommodate their desires. You may see that this points to the Golden Rule, but one may not have the insight or willingness to go as far as that, and yet still learn and accept much from it. Conscience, the recognition of other people and their rights and desires and needs, is one point of entry into the realm of ethics.

The second entry point is that with respect to all sorts of things, we have intuitions about what makes them good or bad. We like a beautiful, blooming flower better than a wilted or crushed one. We like a red, round, sweet apple better than a knobbly, bitter one with bruises and worm holes. In the same way, we like a brave soldier better than a cowardly one, and an honest, hard-working businessman better than a lazy cheat. These feelings about what is good do not mean merely what is useful to us. In an important sense, we like, or recognize the excellence of, a healthy, strong tiger better than a sick, weak one, even though the healthy tiger is more dangerous. And we may admire the courage of an enemy soldier, though it's likely to defeat or kill us, and the hard work and honesty of a business competitor,

though it's likely to drive us out of business. This feeling might be called aesthetic, if you like, and beauty often serves as a kind of first shock of recognition of goodness and excellence. But moderns are prone to seeing beauty as merely subjective, less serious than reason, so it must be stressed that our whole faculty of pattern recognition, without which science couldn't begin, is indelibly indebted to our capacity to categorize things according to the ideas they instantiate, and most categories are defined by their excellence, and can't be understood in their basics without being understood, at least to some extent, at their best. And as there is a peculiar excellence to be sought in flowers and apples, bears and tigers, soldiers and businessmen, and there is also peculiar excellence to be found in human beings as such. Ethics consists in the realization of that idea.

Now, I am very confident that all cultures share these two starting points for ethics, feeling constrained by the rights and desires of others and perceiving and admiring and aspiring to human excellence. That confidence is partly empirical. I've had some exposure to the deeds and writings and customs of many different nations and cultures and civilizations and races and peoples, and I've always perceived these ethical basics to be present. And others who have had more exposure than me, and whose judgment I trust, say the same. And yet it would be a misunderstanding to call this moral universalism a mere extrapolation from the data. I know *by introspection* that conscience and admiration of human excellence are propensities inherent and essential in human nature. I can't acknowledge the humanity of other nations and cultures and civilizations and races and peoples without assuming that those propensities are in them as they are in me. And it is only by making the assumption of common humanity, and giving epistemic authority to my own introspection and sympathy, that I'm able to learn about other cultures from the usually patchy and cryptic clues that history and archeology provide.

But while some moral similarity inheres in our common human nature, there is room for tremendous difference as well. My impression is that beyond the reach of Christianity, conscience is generally heeded, at least up to a point, with respect to some but not all other people. People act with at least some justice and mercy to members of their family or tribe or club, but much less or not at all towards barbarians, outsiders, strangers or enemies. And the notion of human excellence that people imaginatively embrace, admire in others and aspire to for themselves, mingles properly moral

admiration with the mere appeasement of instincts. The *Iliad* of Homer captures pre-Christian and pre-philosophical human nature very well, and its characters have great virtues, especially courage and eloquence, but they have very underdeveloped consciences, a point perhaps best illustrated by the way they take military rape for granted and have no qualms about it at all. Instincts urge it too strongly to be overridden. The primitive imagination couldn't imagine a human ideal without including such natural aspects of high prosperity as military rape. Fortunately, Christianity has enhanced and perfected conscience, and morally purified our perceptions of human excellence, so that it is now easy for us to condemn military rape and exclude it rigorously from our perceptions of human excellence. All Westerners are the heirs of that, with a figure like Nietzsche, who tried desperately to unlearn the moral influence of Christianity and was driven mad by the effort, serving as a kind of exception that proves the rule. Since I am more concerned to persuade post-Christians than pre-Christians, I can use the Golden Rule as a starting place, and expect to be well understood, and to benefit from a lot of initial sympathy.

Most people know the Golden Rule. "Therefore," Jesus taught, "all things whatsoever ye would that men should do to you, do ye even so to them: for this is the law and the prophets" (Matthew 7:12). Or again:

> "'Love the Lord your God with all your heart and with all your soul and with all your mind.' This is the first and greatest commandment. And the second is like it: 'Love your neighbor as yourself.' All the Law and the Prophets hang on these two commandments." (Matthew 22:37-40)

All the Law and the Prophets hang on these two commandments. That's a very large claim. We should bear in mind both the "love" and the "do" forms, for they reinforce and elucidate each other. The Golden Rule is a mandate for active love. I doubt that many will deny the Golden Rule, at least not until I show them how difficult it is, and thereby give them a reason to look for an exit. The immediate danger, rather, is that because the Golden Rule lends itself to such casual, everyday use, we might underestimate it. But the central place which Jesus gives to the Golden Rule —on it hangs all the law and the prophets—should help us to avoid the trap of treating it as a trivial truism. We should not be surprised that a rule so exalted by Jesus Himself turns out to lead us up into a kind of philosophical perplexity that calls on all our faculties to meet it.

To see what I mean, notice first that the Golden Rule really means, "do unto others as you would have them do unto you *if you were in their place*." That raises two immediate difficulties. First, how can you know what it would be like to be in their place? And second, if you were in their place, in what sense would you still be you? In other words: what characteristics of yourself should you import into the alternative "you" whose desires you are supposed to imagine, in order to do unto them as you, in their place, would wish? If you were in their place, how would you be different, but also, how would you be the same?

Whether and how we can know that other minds even exist, let alone anything about their experiences, is a hard philosophical problem. Solipsism, the position that denies the existence of minds other than one's own, is as hard to refute as skepticism, yet as with skepticism, no one believes it. But never mind. We just have to insist, unsatisfying as it feels to do so, that we do know that there are other minds, and something about their experiences, through the faculty of sympathy. Yet it's difficult to bridge the imaginative gulf between selves, to put oneself in someone else's place, and discern how to do unto them as you would have them do unto you if you were in their place, especially if the person is very different from you. It's possible to challenge the Golden Rule as impractical, on the grounds that we can't imagine what we would want in the place of others. And when we fail to practice the Golden Rule, that's often because of lack of imagination. Fundamentally, our epistemic right to generalize from our own experience in order to imaginatively enter into the situations of others so as to apply the Golden Rule depends on a belief in some robust human nature that we all share.

I've heard it suggested that there's a "Platinum Rule" which is better than the Golden Rule, namely, do unto others as *they* would have *you* do unto *them*. That simplifies things somewhat. It avoids the problem of importing some hard-to-define part of yourself into their situation. It mitigates the need to define a robust human nature that we all share. Yet Jesus didn't say that, and I think we can glimpse why if we consider the case of a parent making a child study, when the child would rather play. By the Platinum Rule, the parent would let the child play, since that's what the child wants. But by the Golden Rule, the parent who hypothetically enters the child's situation is still somehow himself, and in imagining himself into the child's place so as to do to the child as he would be done by, he can yet

still be himself, with the benefit of the mature perspective that understands the value of knowledge and foresees that studying will contribute more than playing to the child's long-term happiness. In this way, living by the Golden Rule leads to a richer, fuller kind of love.

Of all ethical notions, the Golden Rule best lends itself, I think, to something close to rational proof. If (a) I am a self, (b) I recognize there are other selves like me, and (c) I make moral claims against others, it seems to follow that they can make moral claims against me, whose validity I am bound to acknowledge. No doubt that argument would require some logical tightening, but it's fairly lucid and capable of great generality.

Again, the Golden Rule is easy to underestimate. It has so many simple, commonsensical applications, that we might be tricked into thinking that that's its only job. Two examples, property rights and occupational choice, can help us start to glimpse the true reach and radicalism of the Golden Rule.

Most people respect other people's property rights. Don't steal from me, and I won't steal from you. I can live by that principle and feel quite innocent as a man who is poor through no fault of mine starves on my doorstep. That's troubling. What does the Golden Rule say about it? Do unto others as you would have them do unto you. If I were poor, needy, desperate, surely I would want people to help me out. How much? Well, if I love my neighbor as myself, it's not clear why I should want myself to be at all better off than he is.

This logic suggests that living by the Golden Rule would lead to spontaneous redistribution of all economic resources, and in fact, many Christian saints have given away all their property to the poor. But the Church has never insisted on that as a general duty of rich Christians, and I think I see why, for it's actually possible to be rich while living by the Golden Rule. You might justifiably believe you're good at managing property, so your best way to serve others is to retain control and share the profits, rather than to dissipate your capital. You might not even give to charity. You might share the profits through job creation and innovation and quality products for low prices. A casual observer might not know that you have a service motive rather than a profit motive. But your attitude towards your property would be one of stewardship. And if you became convinced that you weren't the best manager of so much property, you'd give it away.

Again, consider the question that adults often ask children to make conversation: “What do you want to be when you grow up?” The premise of the question seems to be that life is a menu, all occupations are on the menu, and the child will choose according to preference. But one who lives by the Golden Rule would not choose an occupation that way. Career satisfaction is good for you, but there are many others in the world, and if you love them as yourself, the service that you might do to them is far more important than your own career satisfaction. So occupational choice shouldn’t be guided by what you want but by how you can serve. “What do you want to be when you grow up?” might still be an innocent question if it means, “Surely you want to serve others, so how do you deem that you can be of most service to your fellow human beings, and best practice active love towards them? How do you plan to do unto others, through your occupational choice, as you would have them do unto you if you were in their place?” And I think most young people do have at least some aspiration to be useful and of service to others mixed in with their plans for their futures. But the general attitude of American culture at least to occupational choice is that you can be whatever you want to be, and that's at odds with the Golden Rule, which if taken seriously in this aspect of life, would lean into self-sacrifice and minimize selfish personal fulfillment.

By this time, I hope I have begun to open many readers' eyes to the difficulty of the Golden Rule so much that they doubt they could possibly live by it. The Golden Rule might be a helpful nudge towards achieving such politeness and consideration for others as really serves one's own enlightened self-interest, but if it is really allowed to invade and conquer our whole lives, the conclusions to which it drives us seem intolerable. We just want to be more selfish than that. And who would have enough willpower to suppress our natural selfishness as much as the Golden Rule demands?

To get us out of this impasse, let me approach ethics from another angle, namely, the tradition of the virtues.

Alisdair MacIntyre, in his book *After Virtue*, has elucidated how modern man became peculiarly confused about ethics because of an abortive attempt, starting in the Enlightenment, to reject tradition in favor of reason. As a result, various theoretical schemas were proposed by moral philosophers, who tried to use them as a foundation for ethics, usually to justify the old rules, for the philosophers were rather conservative in their

view of the good society they wanted to uphold, even as they were dangerously innovative as thinkers. But there was never consensus about these new moral philosophies, and MacIntyre shows how none of them are really successful as arguments. So the West fell into a great confusion. Ethics has always been debatable, but this rationalistic subversion of the grounds of ethics is distinctively modern.

As a way to cut through modern confusions and build ethics on a firmer foundation, MacIntyre looks past the Enlightenment to a lost tradition of the virtues that he traces back as far as Homer and other heroic poets, and in which he identifies Aristotle as the most eminent champion. The tragedy of modern ethics began when Enlightenment rationalism, in its zeal to ground everything on reason, jettisoned the Aristotelian idea of *telos*, of purposes and ends that inhere in all sorts of things and define their good. The reality to which the Enlightenment made itself willfully blind is that humans have a *telos*, a peculiar natural flourishing. Ethics should start with an understanding of human *telos* and an ordering of things towards its fulfillment. But when the Enlightenment first doubted and then forgot about *telos*, and cultivated an environment of discourse inhospitable to the recovery or rediscovery of it, it deprived ethics of its proper starting point, so that it became unmoored and went adrift, leaving people unable to account for their moral attitudes. Modern moral philosophy attempted to shore up morality by providing a new basis for it, but it failed, and left moral discourse shrill and confused, borrowing what limited consensus it can find from traditions which it lacks the intellectual resources to understand or robustly believe in.

Yet I don't want to endorse MacIntyre too much, because he's a little too subversive, and blinds himself to, or ignores or downplays, some important ethical realities, such as rights, rules, and conscience, in his zeal to outflank modernity. In particular, he wrongly dismisses the concept of natural rights as an erroneous modern innovation. Actually, natural rights are real, as Western man began to see clearly in the Middle Ages, with the roots of the concept going much deeper than that, and everyone’s conscience bears witness to their reality. *After Virtue* is a masterpiece, yet it is a serious shortcoming of the book that if a reader thought that MacIntyre endorses Aristotle, and Aristotle endorsed slavery, so MacIntyre's philosophy must endorse slavery, nothing in the book would particularly refute this conclusion. Natural rights are the reason why slavery is wrong, and the

reason why it was abolished, and in general, moral progress for centuries has consisted largely in increasing recognition of and respect for natural rights. So it's necessary to mingle MacIntyre's wisdom with modern moral progress and the ideas that have underpinned it.

I've thought about how to do that for years, and here's what I've come up with.

Think of ethics as a five-storey mountain, starting with rules and ascending to values, then plans, then virtues, and finally stories.

The first storey consists of rules. Brush your teeth. Say your prayers. Don't steal. Turn off the TV if you're not watching it. Drive on the right side of the road, or the left if you're in Britain. Park within 18 inches of the curb. Say please and thank you. Don't touch other people's cars on the street. Don't steal what's not yours. Help people when they're in desperate need. Share dessert with all present. Don't tell lies. Don't kill anyone, except maybe in self-defense or war. Pay your taxes. Vote. Love your neighbor as yourself. Get a job and do what your boss says. Respect people’s natural rights. And so forth. Sometimes the rules are easy to follow. Sometimes they're very difficult, either because they're hard to remember, or hard to understand and apply, or because they go against very strong desires. A large part of moral development consists in simply learning the rules, remembering the rules, applying the rules, obeying the rules, until it becomes habitual, automatic, second nature.

But on any rule, it can be asked: why? Why should you brush your teeth? Why shouldn't you tell lies? The question might come from mere curiosity, or from serious doubt. It might also be provoked by cases where the rules seem to come into conflict with each other. You are conscripted into an unjust war, and your country's laws require you to kill for no good reason. Your boss orders you to tell a lie. Someone is in desperate need, and the only way you can help them is by stealing. Then again, sometimes you're just not sure how to generalize a rule. Questions like these lead us up to the second storey of the mountain, the level of values. Rules are typically justified and explained by values. Say please and thank you, a rule, for the sake of kindness, a value. Share the dessert, a rule, to give pleasure, a value, and maybe also for the sake of fairness, another value. Drive on the right side of the road, a rule, for the sake of safety, a value.

Of course, about values, as about rules, the question "why?" can be asked. But values tend to be more obvious and self-explanatory than rules.

Also, values extend the range of ethics. There are situations in which no definite moral *rules* are at stake, yet moral *values* can guide your decisions, as when you're deciding whether to start a conversation with a stranger, or apply for a new job, or take a walk. No rules compel or forbid you to act, but values like sociability, pursuit of knowledge, health, money, or service of others can affect your decisions. Meanwhile, some values, if challenged, turn out to be justified by other values. Safety, for example, is a value, but if challenged, it can be justified as avoidance of pain or damage, another value.

Values are still diverse, and may conflict with each other. If we want to do the right thing all the time, we need a way to settle what that is when rules and/or values conflict. We need some scheme to organize, govern, and harmonize all these values and rules to prevent ethics trapping us into contradictory obligations. That brings us to the third storey of the mountain, the level of *plans*. Plans can be for individuals or for society. But because the conflicting values are often people—the welfare of A vs. the welfare of B—the social tends to take precedence over the individual at this stage. In modern times, utilitarianism is the most persistent and influential template for societal plans of this kind, but it is perennially unsatisfactory. It substitutes true feelings with hollow jargon, and begs many questions, or kicks them back to the questioner. It reduces ethics to an interminable and impossible calculus. And sometimes it seems to open the door to moral justifications for actions that conscience revolts against as horrific crimes, like those of Bolsheviks murdering millions to achieve utopia for the benefit of posterity. Other plans for societies include a characteristically Anglospheric liberalism that pursues economics and utility within a framework of rights-respecting constitutionalism, and biblical Israel as described in the Mosaic law.

Plans can seem like the climax of ethics, bringing everything together, and settling all questions. But they turn out to be a false summit. Have you ever climbed a mountain? If so, you may have encountered a moment, when, toiling up the trail, you look ahead and see some ridge that seems like the top, as high as you can go, with nothing beyond it except the sky. And you muster your strength for one last, exhausting push, looking forward to the spectacular vistas down the other side. But when you get there, you find only a plateau, followed by another rise. So here. For those suffering chaos and violence, a peaceful, well-ordered state of society can

seem like perfection. But as people approach that, we find both that it’s always a bit out of reach, and that it doesn’t satisfy the human spirit. You never quite get to utopia, though in theory it seems feasible, and meanwhile, people get bored with it even before it’s achieved. People can get much of what they said they wanted, much satisfaction of their simpler desires, but something is missing. And at the same time, plans keep breaking down and going awry, not because they didn't make sense, but because people spoil them.

Two discoveries arise from this experience.

First, any happy plan of society depends on certain qualities in the people who comprise it for it to work. People need, for example, to have good habits in order to reliably treat one another fairly (justice), to keep working in the face of fear or discomfort (courage), to control their impulses and manage their desires (temperance), to plan and reason out their courses of action (prudence), at least much of the time (though some spontaneity is good, too), to be at least somewhat consistent over time (faith), to believe in and work towards unrealized possibilities (hope), and to have things they enjoy and admire and dedicate themselves to (love). And no master plan of society can inculcate these special individual qualities, which are called the virtues.

But second, virtue is not only a means, it is also an end. Ultimately, people cannot flourish just because of what they *have*. It has to come from what they *are*. Courage, justice, temperance and moderation and self-control, prudence and wisdom and insight, love for people and things and ultimately God, faith to hold us steady on life's road and make us consistent people with integrity, and hope to make us aspire and work, and to give our work meaning, don't just make us useful to others, but are the key to true happiness.

The social engineer needs the virtues but doesn't understand them. He has no idea how to produce them. Nor can he offer us anything as valuable and enjoyable as the virtues through any skillful and successful arrangement of society.

We have now come into MacIntyre's stronghold, and I think he is right to focus on it. The virtues are the highest level of ethics about which much generalization is possible. Studying them is crucial to understanding ethical goodness and human *telos*. Virtue is good habituation. The more we practice it, the easier it becomes. Virtue *lasts*. When rules are repealed and

plans of society pass away, the courage, justice, prudence, self-control, faith, hope and love that were formed through obeying the rules and working for the plans live on. Virtue is thus a bridge from what is transient to what is eternal. Virtues are more important and general than most of the plans and rules that we live by, and more valuable than the other values we live for, like money or pleasure. And yet even virtue turns out to be a false summit, for in our efforts to define and to achieve the virtues, we glimpse an even higher summit, the fifth storey of the mountain, to which we are led on.

For it is in *stories* that the virtues shine. Virtues depend on stories. It's hard to say what it would mean for a man to be brave or just if he had never been a character in any stories. The ultimate end is to have the story of a life well lived, to *be* the story of a life well lived, or at any rate, to carry it like a name, and virtue is a mere necessary condition for living life well. Even pagan heroes, who thought men were doomed to become gibbering shades in Hades, knew this, and the great Achilles chose a miserable death in battle by the walls of Troy for the sake of eternal fame, against the alternative of a happy, obscure life back home. But Christians know better, for we have been promised that God will tell us "Well done, thou good and faithful servant," and lead us into paradise, and our stories become threads in the tapestry of the divine happiness forever, and God shall still be delighting in our salvation stories long after the scenes in which they took place, the houses and the cities and the galaxies, are no more.

The metaphor of a mountain fails here, for a mountain has a single summit, but ethics has many summits, and lives well lived are glorious in nothing more than their *diversity*, for every life well lived is like no other. If it were somehow subtracted from the world, the loss would be irreplaceable. Yet as all material objects are made up of the elements in the periodic table, all lives well lived cohere and shine by prudence or reason, temperance or self-control, courage, justice, faith, hope and love.

And also– and here we come round to where we began– all lives well lived are full of the practice of the Golden Rule. A life well lived is a prize that one cannot work for directly, because lives well lived are so different. And you are not the author of your life story. Life is not a menu in a restaurant, where you choose what life you want to order. We act amidst a vast array of circumstances and events that both supply and constrain our opportunities. There is no equality of opportunity. Everyone's opportunities

are different. You cannot know in advance your life story, and the glory, if all goes well, that will be revealed in you. What you can work for is the Golden Rule, serving the good of others at every opportunity. The virtues, though valuable in themselves, are not quite ends in themselves, but all-purpose means to all manner of good ends. The Golden Rule gives them their work. It's easy to problematize the Golden Rule with simplified, abstract examples. If you have just one $10 bill and there are two beggars who want it, maybe you can't do unto both beggar A and beggar B as you would have them do unto you in their place. But we've already gotten past thinking that ethics can be reduced to applying rules derived from plans, and life may not present us with such simplified, abstract examples as that. The Golden Rule is an ethical creed fit for a life of adventure, with something to say in all sorts of morally critical situations where we can't afford to wait for the results of a utilitarian calculus.

Better yet, one of the secrets of virtue is that practicing it makes it not only easier but also *more enjoyable* to practice it. It may seem too difficult for you to practice the Golden Rule now, but if you try hard, you will begin to acquire the virtues, and they will aid you. The Golden Rule, if attended to properly, sets before you a limitless number of tasks in which you can practice the virtues. And the pursuit of virtue is the highest self-interest, for it makes one*self interest*ing. The Golden Rule's quixotic standard fills the world with an agenda of adventures, the pursuit of which can turn your life into a story that will be worth telling in the end.

I fear that some readers will still find the prospect of living by the Golden Rule all the time too daunting. Can't we set our moral sights a little lower than that? What if we don't aspire to be saints and heroes, but just ordinary decent, polite, responsible people? Is it possible to acknowledge the force of the argument for the Golden Rule, and at the same time limit its reach so that it falls short of the radicalism of really regarding others' interests as if they're as important as our own? If others' moral claims against me must be proportional to my moral claims against them, can I seek to limit my moral claims against others and thereby justify limiting my own moral liabilities?

But your desire to limit your moral liabilities, and your willingness to limit your moral claims on others in return, is a function of privilege. If you were in the desperate position many others find themselves in, you wouldn't be able to sustain this stance of trying not to make claims on others. You'd

want others to help you. And so if you, in trouble, would wish for help, you'd better stand ready to help others too.

One way to bring home to us our need to take the Golden Rule seriously and accept its authority even when its prescriptions seem very radical is to remember that the ordinary commonsense morality of any given time, which is the sort of thing that people would want to fall back on as an alternative to the Golden Rule, historically always seems to have had in it an element of what later times, which became more enlightened in some respect or other, recognize in retrospect as appalling evil. Looking back over history, there are so many people who kept slaves, or fought in and glorified unjust wars of conquest, or flattered tyrants, and yet were ordinary decent people by the standards of the times. Karl Marx attacked the English bourgeoisie of the mid-19th century, who had been on the right side of most recent wars, and who to their great credit no longer kept slaves or allowed slavery anywhere in their empire, for neglecting and exploiting the miserable English poor. He had a point, even if he didn't have a solution. Those exploiting bourgeoisie thought they were ordinary decent people. So, doubtless, did the Athenians who killed Socrates, and the Pharisees and Roman soldiers who killed Jesus, and the Germans in the early 1930s who voted for Hitler as the only way, many thought, to save their country from bloody communist revolution, and the Southerners who upheld segregation to protect white society as they knew it from infiltration by a black element they found sinister and threatening. Doubtless our descendants, too, will look back on us and be horrified by some of our moral blind spots.

And yet there were always some dissenters, some who did not practice slavery, or vote to kill Socrates, or support Nazism or segregation, or fight in or cheer for the unjust wars. Some people held aloof from, or struggled against, the evil practices of their times. That's who to aspire to be. And in every case, one could have discovered the righteous path, as against the assumptions of the majority, by striving to practice the Golden Rule. Resolve to do unto the slave, the poor, the foreign "enemy," the Jew, and all your fellow human beings, as you would do unto them, and you will be able to discern, when the time comes, where the moral peril lies, and keep your hands free from slavery, bloodshed, exploitation and pitiless indifference, scorn and hate. That's how to rise above an evil world and find the moral path.

Second, on the other hand, the maintenance of such civilization as we possess sometimes demands, and may demand at any moment, deeds of extraordinary virtue for which the everyday practice of basic morality doesn't prepare us, yet which it turns out that society always expected of us, and had to expect of us, in certain desperate contingencies. Courage is an obvious example. If your country were invaded, would you fight for it, even if it meant dying? If everyone's answer were "no," the first invader would conquer it, though you might last a long time on an undeserved reputation for being willing to fight. Likewise, if you could avoid taxes by paying a bribe, would you? What if you were in desperate financial straits? Or suppose a tyrant were to usurp control of your country. Would you stand up and defy him in the name of justice, truth and freedom—or submit meekly and say whatever flattering words kept you safe? What if you were working in finance during a bubble? Would you try to blow the whistle on it? Or would you keep selling inflated assets to suckers, making a quick, easy buck while fueling the frenzy that's destined to crash and bring economic devastation? If you were a young academic on the make, would you publish a paper that you knew was shallow and misleading, but was likely to get cited enough to win you tenure? What if you were a judge who sees that the correct application of the law in a particular case will be unpopular or offend a powerful politician? The integrity of all our institutions depends on people doing the right thing in all these cases of unusual temptation.

What good there is in the heritage of civilization depends on people who did the right thing in cases like these in the past, and thereby established norms and institutions that sustain a better civilization than we had before, and a better civilization than we may have in future. Are you worthy of that civilization? When the situations arise in which society expects us and depends on us to do deeds of extraordinary virtue, it regards those who fail as contemptible cowards, traitors or crooks. Here again, the Golden Rule stands ready, if we heed it, to keep us honest and brave, refusing to surrender when our beloved fellow citizens are counting us to fight, refusing to take bribes when our fellow citizens are counting on us to uphold the law, refusing to profit off financial Ponzi schemes that we know will ruin the people we're selling to and end in a calamitous crash, refusing to flatter tyrants when their victims need someone to rise to their defense. If we've set our sights on ordinary morality only, and chosen to say no to the

higher vocation of the Golden Rule, then we'll probably fail when society needs us to do something extraordinary.

So let's refuse to listen to the siren song of compromise, of keeping our moral ambitions limited and comfortable, and resolve to rise to the challenge of the Golden Rule.

Now, it has been part of my purpose in this chapter to argue for an audience broader than Christians or theists. The Golden Rule evidently has much appeal for agnostics and atheists, so it didn't seem right to make my argument dependent on any claims that they reject. And yet it is a distortion of things to study the Golden Rule, which is the second great commandment, independently of the first great commandment to love God with all our heart, might, mind and strength. The commandments are connected because the best and most general reason why we should love other human beings is that they were made and are loved by God. In loving them, we also love God. I don't doubt that many atheists love their neighbors, and perhaps even their enemies, but I do doubt whether they ultimately have a reason to do so. The Christians love of God is a source of strength for loving fallen men and women.

And so, to foreshadow where the argument is going, the one Man who did perfectly live by the Golden Rule was also the Man whose whole life was most perfectly pervaded by love of and diligent obedience to God– namely, Jesus. I will argue in chapter 15 that Jesus was the only morally perfect person who ever lived, with the possible exception of His mother. That is, of course, a bit more than can be actually proved from the historical record, but a strong case can be made, and the astonishingly pervasive and deep moral shortcomings of all of mankind, apart from Jesus, make Jesus stand out as the more unique, remarkable, strange and significant. If you found this chapter especially interesting, and are especially eager to learn more, it might not be a bad idea to skip ahead to straight to chapter 15, and having studied the Golden Rule and the virtues, while that's fresh in your memory, hurry to find out what their perfect fruit looks like. If you do, don't fail then to go back and read chapter 14, which is almost the keystone of the whole book and should certainly not be skipped. But you needn't come back and read chapters 12 and 13 unless you want a deep dive into sexual ethics. I've given that topic more space than its relative inherent importance deserves, because it is a topic with which the contemporary West is especially obsessed, and about which it is most spectacularly wrong.

Chapter 12. Sociobiology, the Sexes, and Human Nature

Now, as we saw before, to apply the Golden Rule, you need some understanding of human nature, to provide a basis for generalizing from your own situation to that of others. At the highest level, that means that in living and loving people by the Golden Rule, we must remember, sometimes at least, their potential, and the future glory that we may hope will be revealed in them, and we might need to help them become saints and heroes. More often, doing unto others as we would have them do unto us, involves meeting simple needs: a meal, a job to pay the bills by, a roof over their heads. Greater than this is to discern a person’s story and the potential glory in it, and to help them rise to become their best selves, but a lower level also should not be neglected. You should not forget, of course, in your zeal to help your neighbor become a saint or a hero, to attend to his immediate needs for food and shelter. Human beings are soul and body, and our theory of human nature, by which we project ourselves into others' situations to discern what is good to do for them, should not leave out of account the fact that for the time being we are incarnate and mortal, endowed with a whole package of instincts adapted to help us survive and reproduce, so as to make our selfish genes preserve or expand their market share in the gene pool. Yet it's very tricky to integrate the selfish genes into one's theory of human nature without seeming to undermine human dignity. So I beg the reader's patience once again, as I come at it a rather long way around.

Have you ever thought about paint manufacture? It’s kind of gross. Oil. Chemicals. Pollution. Heat. Pots bubbling. Some of this stuff even landfills refuse to accept. You’d better not drink it! Think about that next time you’re in an art museum. Or don’t. Would the paintings still be beautiful if you knew what they were made of? Yuck!

With that in mind, consider the following parable about two art critics. The first learns about how color choices were driven by paint availability, and gets fascinated. He starts writing more and more about colors and the chemistry underlying them, and the history of paint manufacture and how it affected the price and style of art, until pretty soon his art criticism is more about the paint than the pictures. A second art critic, disgusted by this,

seeks a purer art criticism. He tries to banish vulgar expressions like “brush stroke” and “canvas.” He never mentions whether a painting is oil or watercolor. He focuses more and more on the “mind’s eye,” and tries to understand what the painter was envisioning. Pretty soon, he gives readers the impression that the only thing that matters is what the painter was thinking, and the whole business of smearing chemicals on sheepskins is a vulgar and unfortunate necessity. Wouldn’t it be nice, he once lets it slip, if we could see directly into the painter’s thoughts? Then we wouldn’t need to paint. He comes to regard painting as a clumsy and dirty workaround for humans’ tragic incapacity for telepathy.

Of course, I think both of these art critics are on the wrong track. There are more important things about a painting than the paint, but the paint isn’t irrelevant or accidental either. Some part of a painting's beauty does arise from the mere colors of the paint, and much more from the interaction of the painter's skill with the paint itself. The resulting paintings may be more beautiful than anything that was in the mind's eye of the painter. A good art critic should know that there's much more to a painting of a meadow in springtime, say, than the paint, while not disdaining to talk about the brush strokes by which the painter made the wildflowers come to life on the canvas, and maybe now and then even crediting some of the beauty of the painting to the paint itself, which allowed the painter to perfectly capture the color of buttercups or fireweed. The painter brings new meaning and purpose out of his materials, without leaving those materials behind.

Now let's turn from the painting of the meadow to the real meadow. It's a spring morning, the sun is bright and warm, the sky is blue, and the only sound is the soft buzzing of the bees as they ply their trade among the gorgeous flowers. The rustling of a gentle breeze makes the flowers sway and dance. All the life and loveliness weaves a spell of peace that makes the human spirit breathe a great sigh of relief and then melt into a hymn of gratitude.

But alas, a certain botanist knows better than to believe in that feeling of peace. He knows all too well that the meadow has a dark and terrible secret. The flowers are at war. Under the earth, their roots are clutching and clawing and crowding each other, desperate to steal a little of the scarce water from their rivals. A few inches up, the stems shoot out leaves like swords, battling to gobble up a little more of the precious sunlight, and trying to shade other plants in order to starve them of it and to kill them.

Even now, all around the naive painter who is delightedly painting the meadow, many plants are dying for lack of light or water or soil nutrients because other plants have seized too much. As for the flowers, with their garish, eye-catching colors like neon signs on a busy city street, they are fighting for the attention of the pollinators. Some will win the fight, get plenty of attention, spread their seed, and their genes will win greater market share in the next generation. Others will not be so lucky. Outshone and eclipsed, they will fail to be mated, and the rest of their lives will be futile, followed by the death of their lineages, slain by more successful flowers, who will have more room to expand the empires of their own selfish genes because of those they have extinguished. This botanist almost envies the lies of the painter, who shows a meadow that is all beauty and no death, which the botanist, alas, knows too much to believe in anymore. The painter does a service by helping people to see, but even more, by blinding them to the truth that every fiber of nature is stained with the mark of Cain.

Well, that can't be right! Even if the botany is true, somehow we need to avoid falling into the trap of looking at meadows this way. There's some sort of fallacy of inappropriate personification here. It's not sad when a flower lineage dies as it would be when a human lineage dies, because flowers can't feel sorrow. And it's not a flaw in meadows to be alive, with all that entails of transience and genetic competition. The sad botanist's error is akin to the too transcendentalist art critic: he feels an aversion to the necessary material basis of the thing he admires. As the painting derives its distinctive permanence from the way that oil paints stick to a canvas, so the meadow and the flowers derived their distinctive permanence from an ecological equilibrium sustained by genetic competition. Without the selfish genes at work preserving themselves, the flowers wouldn't spring out of the ground when the snow melts again and again, nor produce their brilliant colors to impress the pollinators. It's part of the glory of nature to mingle permanence and change in this special way, and we can thank the selfish genes not only for the flowers, but for knowing that when they wilt and fall, the parting is not forever, for they will return. We need to learn not to find genetic competition repugnant so that it spoils the beauty of nature for us. Like oil paints, while it has an unlovely side to it, it is a necessary part of something beautiful.

Now consider a mother and a baby. The mother is transported with delight at the baby's every movement and sound, and even more, if

anything, when the baby is peacefully asleep. She provides for the baby's every need, far more eagerly and urgently than for her own. She loves it with a perfect giving love, wanting it to be happy and to flourish, asking nothing in return. And the baby feels perfect trust in its mother. Her presence makes all fear vanish. It turns to her in every need, and loves to feel the warmth of her body. What could be more wonderful?

And yet it's their selfish genes that are making them behave this way, as one battle in their endless war for market share in the gene pool. The baby is the means by which the mother's selfish genes will invade the next generation. The more the baby flourishes, the likelier it is to produce more offspring. The baby's selfish genes, too, make it trust the mother because of this conspiracy of genetic interests, knowing that it can look to her for an outpouring of support and help because it is the propagator of her genes.

Also, their genetic interests are not perfectly aligned, after all. There may be current or potential siblings in the picture, in whom the baby will have a certain kinship interest but who are also rivals for the attention of the mother. The baby may cry, sometimes, not because it has real needs but simply in a tug-of-war for the mother's attention against siblings or suitors. As the child grows, the occasional impulse to exaggerate its needs to compete for the mother's attention will be interspersed with impulses to impress the mother and show her that it is fit and promising, worth investing in. And so the child will demand attention, and want to show things that impress, from an instinct to dissuade the mother from neglect, or in the worst case, abandonment. The mother-love instinct will wax and wane, under the influence of the selfish genes, and sometimes, when a child seems hopelessly unfit, or when desperate times call her own survival into question, it may vanish altogether.

This is a little different from the case of the flowers, because unlike flowers, mothers and children are moral agents, and it is right to feel repugnance about some of the things that mother-love, or the different love of a child for a mother, may sometimes urge people to do. Even so, we need to get past the repugnance that arises merely from the personification of the selfish genes. Again, genetic competition is the key to our instincts, and it's a necessary part of how living things, including us, mingle continuity and change through the mechanism of ecological equilibrium. But humans also have reason and conscience. We are, as CS Lewis puts it, "amphibians," simultaneously inhabiting a spiritual and a material plane, and the full

panoply of instincts with which we are endowed arise from and are consistent with the general basis of life.

Instincts enable the generations to keep rolling, teaching us so many things that we need in order to mature and mate and raise offspring. To learn all those things by reason would be too laborious and unreliable. We need our instincts. But instincts are amoral in themselves. CS Lewis compared them to the keys on a piano, all of which are right and wrong at different moments. Goodness is like a melody played on that piano, which tells us when to activate each instinct and when to silence it.

We are probably right to admire and approve of the mother doting on a baby, for her instinctive affections would seem to be aligned with the Golden Rule. The baby is her neighbor, and she is loving it as herself, doing for it what she would want to be done for her, if she were a baby. Yet even so, it's not quite certain whether she's doing the right thing. If the mother happens to be the only scientist on earth with the genius to develop a vaccine which would save a billion people from a plague, but in an ecstasy of mother-love she has abandoned her laboratory and will let all the people die, then she is doing wrong. (She should hire a wet-nurse and get back to the lab.) Even the mother-love instinct is not always good.

In general, reason must govern instinct. We ought to treat our instincts the way we treat domestic animals. We admire the courage, and even the potential ferocity, of our dogs, but we keep them on leash much of the time, so that it can't break out at the wrong moment. We admire our horses and love to watch them run free, but often we put bits in their mouths and saddles on their backs and goad them with stirrups, making them carry us whither we will. We give our chickens grain and let them stretch around the barnyard eating bugs, but we don't let them sit on eggs that we want to eat. Sometimes we encourage instincts. We deliberately breed animals, and we throw frisbees for our dogs to satisfy their instincts to chase. But often, we suppress them.

We all treat our own instincts in the same way, at least to some extent. We appease the feeding instinct, and sometimes actively encourage it, but often we suppress it, because we're in a business meeting, or all the nearby food is someone else's property, or we're on a diet. Likewise, we all know that sexual instincts are sometimes innocent and sometimes dangerous, and need to be diligently regulated. And to what end should they be regulated? The Golden Rule. And that brings instinct in again, because we should

appease and appeal to the instincts of others as we would have our own instincts appealed to and appeased.

That's a sufficiently pedestrian conclusion, but its application can be rather difficult, and we're likely to get tripped up constantly by that same kind of unhelpful repugnance that we kept running into when we studied painting and meadows and mother-love. Only that sort of repugnance tends to be especially strong in sexual matters.

And so, as a way of getting around the repugnance to establish the general point about how the Golden Rule should deal with instincts, let's start with something less touchy: food.

Our natural appetites for food are shaped by the need of Stone Age man to get the right amount and kind of nourishment to survive. Certain ingredients, such as sugar, salt, and fat, must have been hard to come by in the Stone Age, relative to what the body found useful. So it made sense for the selfish genes to adopt a policy of basically eating as much sugar, salt, and fat as they could get. Stock up!

In modern conditions, this instinct is maladaptive. Sugar, salt, and fat are now easily and reliably available. The risk to the body is far less of going without than of eating too much. But the selfish genes are hopelessly out of date, and keep urging us to eat as if we were primitive hunter-gatherers enjoying a temporary abundance but likely to face famine soon. As a result, most of us, in the contemporary United States at least, are fatter than we should be, many have high blood pressure, and our health care system has a lot of expensive work to do cleaning up after our poor eating choices.

With that in mind, how should you feed a group of people, in accordance of the Golden Rule? It will make some difference, of course, whether you're catering a party of your friends, or running a catering business for strangers, or volunteering at a soup kitchen, or running a restaurant, or working as the army cook for a regiment, but certain principles are in common nonetheless.

People need to eat, for starters, so in feeding hungry people who wouldn't otherwise have food readily available, you're obviously more or less doing unto them as you would have them do unto you in their place, and thereby following the Golden Rule.

But what kind of food should you prepare? Hopefully, something they'll like. Hopefully, something that's good for them, that is, for their health. But

people's tastes differ so much. Their dietary needs for staying healthy different quite a bit, too.

Up to a point, it's good to give them options. Obviously, if nothing else, they have the option of not eating everything on their plate. For those with big appetites, you can let them take seconds, or set up an all-you-can-eat buffet. You can have a menu, and let them order. But options are expensive in money and/or time, and also demand work on the part of the people being fed. They have to read the menu and make their order, or walk the buffet line and scoop food onto their plates. So you can't take the options strategy too far. If you're feeding other people, you'll probably to some extent choose what they eat.

Culture may provide a good deal of help in coordinating expectations, but there are a lot of different eating practices within a culture like that of the contemporary United States, and your guests may be from the other side of the world, from a culture whose cuisine you know nothing about.

Is there nonetheless any general advice that can be given about how to feed a crowd?

There is, because underneath all this cultural and individual variation, there are biological commonalities. People need proteins and carbohydrates and fiber. They need foods that aren't too tough or chewy for human teeth to render swallowable. And so forth. But interesting nuances surround this question of salt, sugar, and fat. For we want these foods more than we should. That's part of human nature. And so, if you simply want to please a strange palate, something like potato chips or pastries or candy that panders to these primitive cravings is very likely to satisfy people's need to munch. If you're engaged in more sophisticated cookery, you should still oil your pans and apply the salt, and sweeten things as needed, to reliably give pleasure. On the other hand, use too much salt, sugar, and fat, and you may be doing your customers a disservice, even as you please their palates, by making them fat or rotting their teeth or giving them high blood pressure.

And so your policy in feeding people should probably involve a balance between their immediate needs and long-term investment in their health. If you're going to be feeding them regularly, or if the meal is of a routine character and they're not under any particular stress, then it might be loving of you to make sure what they're giving them to eat is fairly healthy, and keeps the salt, sugar, and fat to sustainable or even sparing quantities. If, on the other hand, they've just been through some hellish experience, so that

this is really no time to be practicing willpower, then you might do better to load them up with comfort food, supplying them with potato chips and candy bars and soda to relax them and calm their nerves.

These are hardly infallible generalizations, but to reject this sort of reasoning altogether, and feel completely helpless to feed anyone unless you are fully aware of their nutritional history and detailed preferences, would clearly be a mistake. We can feed the hungry, even hungry strangers, and we can do it better or worse. Some general principles of human physiology are helpful in that, and part of that involves understanding the peculiar way in which human appetites are maladapted to modern conditions, so that the lives of many people are a continual battle of willpower against their propensity to overindulge. We should feed people in ways that take that into account.

Now sex, which is necessary to the survival of the human species, isn't exactly more important than food, which is necessary to the survival not only of the species but of each individual from day to day. But it's much more complicated. The strength of the desires arising from sex probably isn't greater then the strength of the desire for food and the maxima of both of these cravings, but the appetite for food is much more easily sated. The quantity of food needed for health is quite moderate. Our Stone Age instincts, thinking we're in a moment of temporary plenty and ought to hoard food in our bodies against a rainy day, may drive us to eat a good deal more than what is necessary for health, but even so, they're soon sated, for even in the Stone Age it wouldn't have been adaptive for one man to eat enough food for ten. But if his selfish genes don't want him to guzzle ten meals at a sitting, they certainly do want him to keep ten wives in a harem. Sexual appetites naturally have an unbounded and insatiable character, for very clear evolutionary reasons. In modern conditions, it's possible to satisfy the appetite for food pretty satisfactorily, but the appetite for sex must be sternly governed if it's not to drive us mad.

So let's turn to the sociobiology of sex, and extract a few basic generalizations that we can use to understand human nature.

Let's start with the most basic question: What is gender? Why is the human race divided into male and female? What determines gender? How are men and women different?

People always knew that men and women had not only different genitalia, which usually remained hidden, but also different body shapes,

voices and behaviors, in ways that were sometimes subtle but cumulatively large and unmistakable. Now science has revealed a pervasive difference in every cell of male and female bodies that provides a very clear and objective basis for all these differences: DNA. One of the chromosomes in human DNA is the sex chromosome. Sex chromosomes come in two types: X and Y. Women usually have two X chromosomes. Men usually have one X and one Y. Sometimes the number of chromosomes accidentally differs, but sex always seems to be well defined, e.g., a man with two X and one Y chromosome may have slightly feminine characteristics in some ways but is still definitely a man. DNA is distributed in cells throughout the human body, so every part of a male is definitely male, and every part of a female is definitely female, at the level of chromosomes.

That's really all that needed, by the way, to refute the follies of transgenderism. The physiological and instinctive differences between men and women arise from DNA, and male and female DNA are innate and immutable. "Sex change" surgery doesn't change a person's sex, it's just a form of mutilation.

The selfish genes, once well adapted, are absurdly out of date today. They're inherited from long, long ago. Probably all of human history, that is, all the time that has elapsed since men invented the craft of writing, hasn’t been long enough to alter the gene pool very much. In that sense, we are not really suited to city life. Perhaps we are not even suited to farm life. What sociobiologists sometimes call “the environment of evolutionary adaptation” was probably the prehistoric hunter-gatherer band lacking farming or metal tools, or in short, the Stone Age. We lived in that condition for hundreds of thousands or millions of years, and that’s probably the last time the selfish genes had leisure to learn the lessons of survival and inscribe them into our genes. We are Stone Age men and women, dressed up in modern clothes and modern customs, but still with Stone Age instincts. The physiologies of men and women differ substantially because men and women needed different traits to pull their weight economically and compete for mating opportunities in the Stone Age, and the instincts that shape their preferences and behaviors differ for the same reason.

Men’s sexual instincts are shaped, in mating, by the selfish genes' goal of maximizing quantity of mates, since men's reproductive potential is almost unlimited if they can secure enough mates. That makes them

relatively risk-loving, since spectacular success in the Stone Age could have a huge reproductive payoff, if a man became a tribal leader and harem master. Women, by contrast, have an instinct to seek quality in mates. Since every child will require a lot of investment from her, she doesn't want to get pregnant unless the child will have a promising genetic inheritance from its father, or economic support, and preferably both. Women also tend to have a peculiar alertness, and a propensity for watching and worrying, because they and their children are especially vulnerable. They are naturally more risk-averse than men.

Another contrast between the sexes is that male jealousy looks to the past, while female jealousy looks to the future. A man's selfish genes want his mate (a) not to be secretly pregnant with another man's child, and (b) to feel attachment to him and no one else. A woman's selfish genes want long-term male parental investment from any man who impregnates her. Male sexual jealousy cares above all about physical fidelity, since any breach of that compromises his certainty of his paternity of any children his wife bears. It can get murderous. Female sexual jealousy cares more about affection, since she needs his ongoing attachment and resources to raise her offspring.

The general pattern that males seek quantity and females quality in mates applies to many species, but among humans in particular, it seems that a sexual division of labor emerged early on, whereby men were hunters and women were gatherers. This seems like a wise economic arrangement for a typical foraging band. It would yield a balanced diet of meat and plant matter, and women could combine gathering herbs with looking after children, while men did the more strenuous and dangerous work of roaming far in search of wild game. And this arrangement persisted for so long that people had time to adapt to it, with men acquiring the characteristics that made them successful hunters, and women the characteristics that made them successful gatherers. Men and women have inherited a propensity for hunter-gatherer specialization from their prehistoric ancestors, and despite an interlude of civilization that has occurred since that time, we still have instincts suited to it.

For example, why do women love shopping?

Of course, that's not an absolute law, only a strong generalization, but it holds true regularly enough to be worth living by. If a man wants to please his wife, letting her go shopping with her girlfriends while he watches the

kids is likely to succeed. If a woman wants to please her husband, she probably shouldn’t drag him along while she ambles through the mall admiring the merchandise. Some modern Westerners will have a knee-jerk impulse to dismiss such generalizations as “stereotypes,” but frankly, that’s not a very helpful word to have in one’s active vocabulary. “Stereotype” basically means a generalization, combined with a gratuitous pejorative connotation that objects to generalization as such. But we need generalizations to navigate our world.

We considered the example of how to feed a crowd. Now let's think about how to entertain a crowd. Suppose a group of people, including both men and women, are in the United States on some sort of intercultural exchange, and a friend of yours who is supposed to host them unexpectedly needs an urgent surgery. You're asked to help out. You have these people on your hands for a day, and you're supposed to give them a little fun, but you know hardly anything about their culture or what they like. And while they know a little bit of English, it's not enough to conduct a searching inquiry about what they'd enjoy most. Your best bet might be to borrow some insights from sociobiology, and take the women shopping and the men to a ball game, an arcade, or an action movie. Shopping appeals to women's gathering instinct, from the human race's old hunter-gatherer days. Sports, video games, and action movies appeal to men's hunter instincts. You'll be practicing the Golden Rule, doing unto the men and women in your care as you would be done by, if you had the endowments of instincts that they had. Sociobiology gives you a reasonable basis for guessing what they like.

Let me conclude this chapter with a few not very serious examples that illustrate the method of reasoning that I'm advocating.

First, there's an old custom by which men open doors for women, as part of "chivalry," in a kind of trivialized sense of the word. It seems a little odd, not to say silly, because women's strength, in general, is very sufficient for opening doors. They don't really need men to do it for them. On the other hand, it seems pretty innocuous, so if anyone has a preference in favor of the practice, it might be worth indulging. What does my "Golden Rule plus sociobiology" method to say about it?

Well, I can see why it happens. Men enjoy showing off their strength to women. It's instinctive. Women enjoy being cared for, attended to, protected by men. So this little ritual of opening doors is calculated to please both instincts. It's irrational because women don't really need the service

involved. But in another sense, it's smart to get the pleasure of appeasing people's instincts at such negligible cost.

I think the Golden Rule could go either way on this one. You might love your neighbor by indulging the gratifying gesture, or by not wasting time and effort on a needless service. Of course, if a man knows that a particular woman really likes having doors opened, or finds it annoying to have doors opened for her, he should probably make sure to do it, or avoid it, respectively. Likewise, if a woman knows that a particular man enjoys opening doors for women, or dislikes it, she should wait for him to open it, or quickly open it herself, respectively. But in general, chivalrous door opening is a way of interacting either with strangers, or if with acquaintances, probably infrequently enough that you won't know their idiosyncratic preferences. Anyway, keeping track of preferences is far more mentally expensive, so to speak, than adopting a uniform policy one way or the other. Does the Golden Rule make a difference? If a man instinctively enjoys opening doors for women, he might do it for the fun of it, or as a way of meeting women or making a good impression. But this is just where the Golden Rule is helpful, for a man is more likely to enjoy opening doors for young and beautiful women, but older women, and plain or awkward women, will probably enjoy the attention as much or more, so the Golden Rule will make sure he is attentive to them, too.

As another example, should husbands take special care to bring their wives flowers and to do special things for them on their anniversaries? Sociobiology shows why women value these little things more than seems rational. Women's selfish genes fear abandonment by mates, and appreciate any sign of ongoing affection and attachment from their husbands. In the midst of civilization, with all the power of language and culture at her disposal, a woman will probably have much better grounds for confidence that her husband will stay with her than his bringing of flowers or remembering of anniversaries. And the flowers and anniversary dates may not affect her conscious belief in her husband's ongoing attachment and fidelity at all. Nonetheless, the simple visible signs that he thinks of her when he's gone and looks for things she would like, and that he's counting and valuing the time that their relationship continues, will thrill her selfish genes and her instincts and give her pleasure.

Against this, giving flowers and celebrating anniversaries might be a little irrational. Perhaps the money spent on flowers could buy more lasting

decorations, resulting in a more beautiful dwelling over time. Perhaps there would be more suitable evenings for a date than an anniversary, which might have bad weather. A husband might know that his wife trusts him without the flowers and anniversaries and doesn't care for the old rituals. Yet does he, really? Did they discuss it? If she disclaimed an interest in flowers and anniversaries, was she sincere? Or was she trying to relieve him of guilt for forgetfulness or poverty? If she was sincere, does she know herself? Would she find that the flowers and anniversary celebrations which she never wished for actually bring her great pleasure?

Let's take a third case, a rather more important one this time. A woman of marriageable age wants to become a writer, and dedicates herself intensely to efforts to craft a good novel or book of poetry, while ignoring her looks, fending off a suitor or two, and disclaiming interest in marriage for the foreseeable future. Her relations are concerned. Shouldn't they intervene and pressure to sideline the writing dream and focus on trying to get married?

While this example is more important and difficult than the doors, flowers, and anniversaries, there is the same conflict of reason versus instinct. Writing is rational. A woman who has had great benefit from reading over the course of her life might well think she can best serve humanity by writing a book or a poem or an article. But reason vs. instinct is nuanced, for it's also rational to want to marry and form a family and procreate. The pleasures that her mere instincts afford her by meeting men or dressing to impress them are less rational, and less important, than the pursuit of truth or the praise of virtue through good writing. They may also be less pleasurable, from her perspective. Yet if she encouraged them and yielded to their desires a little more, what they would try to arrange for her, namely to attach a good man to her by the bonds of sexual love, which reason would amplify by the promises of marriage, might be more valuable than anything she will accomplish by writing.

And so her relations might practice the Golden Rule by seeking to influence her in either direction. They might show love both to her and to her future readers by encouraging her writing. But they might show love both to her and to her future children by discouraging her obsession with writing and trying to interest her in men and in marriage. It depends a good deal on how much promise she shows as a writer, and how well her personality seems likely to cope with the loneliness if she turns down

marriage for writing's sake. Of course, if she's a good writer, that may be the best way in the long run for her to find a good match, someone who values her for the best of who she is. But no matter how great her genius as a writer, and no matter how rational her suitors, it will almost certainly improve her odds of getting married if she gets in the habit of dressing pretty. And it's not only for her benefit but for theirs. It would be a shame if her neglect of her appearance eventually puts a man in the position of falling in love with her mind and wanting to share his life with her, yet feeling unable to marry her because his complete lack of attraction to her body makes him unable to perform basic marital obligations.

One last light example before we turn to more serious matters. There is a long tradition of society intentionally using the charms of women to motivate men to do great deeds. I learned in a movie set in Ireland of a custom whereby the women of a village hung their bonnets at the finish line of a horse race, for the men to catch as they crossed it, the point being that the man who arrived first could have his pick of them and show his favor to any woman he chose, while those following had to choose among an increasingly narrow selection. In medieval tournaments, jousting knights would wear the colors of women who are watching, as if to fight for them. On modern football fields, female cheerleaders, rather scantily clad, adorn the margins of the field, stirring the crowd to excitement. Why does this happen? Should we approve of it? Should we try to end such customs, or on the contrary, should we invent more ways of using feminine charms to stir men to achievement?

To the last question, I don't see why not, up to a point at least. Medieval tournaments, though glorious, were perhaps a little too violent to deserve full approval, and cheerleaders, though fun, are a little too scantily clad and may provoke too much lust, but I like the Irish horse race with the women's bonnets to be claimed as prizes for showing favor, and clever event planners could surely come up with many other ways of leveraging men's interest in impressing women to make them do fine things for their sake, once the principle is agreed upon, that both genders would, by and large, find pleasing.

I have said all these cases are relatively unimportant, but they're not absolutely unimportant. To be indifferent to whether men are gallant and considerate and ambitious and brave in order to impress women, and whether women make themselves beautiful and pure and kind in order to

impress men, is a little like being indifferent to whether a meadow is full of colorful wildflowers. A meadow of nothing but grass might be just as useful for some purposes, such as grazing dairy cows. But the extra beauty of the wildflowers is a glory that should be valued over and above the merely utilitarian or economic value of a meadow. In the same way, the human race might manage to reproduce itself from one generation to the next without any of these arts and practices which heighten the appeal of each sex to the other, but some beauty and glory would be lost.

Above all, a key takeaway from this chapter is that it's important to avoid the trap of finding sociobiology as a basis for understanding human nature repugnant and offensive. It's an old trap. Many thinkers have, in one way or another, set the spiritual aspect of human nature in opposition to the body, and regarded the latter as a thing to be a little ashamed of and to minimize. But that's the wrong attitude to take. It's a kind of pride, which is too disdainful of all sorts of innocent pleasure. Human beings are made to be bodily as well as spiritual creatures, with instincts as well as reason, and we shouldn't rebel against that. Genetic competition is the paint with which God has painted the picture we call life on the canvas of physical nature, and we are part of that picture, even as we also bear a divine spark of rationality and transcendence that sets us apart from the rest of living nature.

Genetic competition has many manifestations, and some of them are glorious and well worth enjoying. It can make fools of us, but it can also make us wise. We must tame and govern our instincts, but it's not best practice, in general, to try to kill them. We can reject instinctive impulses and pleasures because they would interfere with some rational plan of action or of life to which we are committed, but I think it's always a mistake to think it's beneath our dignity to yield to instinctive impulses and pleasures as such, simply because they belong to our animal nature and are native to a lower level of reality than that of reason. The occasional woman who is offended when men open doors for her or compliment her appearance is making this mistake.

All the examples we've considered thus far involved a degree of tension or opposition between instinct and reason, and consequently the conclusions are ambivalent. We didn't really settle any of the questions that were raised. But that's because we're dealing with debatable etcetera of sexual ethics, matters of taste and almost of fashion. When we come to the

core questions of Christian sexual ethics, the arguments will play out very differently, as I will prove in the next chapter, which is the most narrow and practical chapter of the book.

Chapter 13. The Case for Chastity

It's not too late to skip ahead to chapter 14! This is the chapter that strays furthest from the central argument of the book, and which is least essential to its overarching mission of establishing the grand coherence of the truth. I can vouch for the severability of the rest of the book from this chapter. If you skip, the argument will still make sense. If you're reading this book a few decades hence, when, with luck, the Sexual Revolution will have passed away and will be remembered as an extraordinary temporary darkening of the human mind, like communism, then the argumentation in this chapter for what will again have become normal and obvious truth, will be rather superfluous, and of mainly historical interest, like the epitaph on a tomb of a tyrant. But at the moment, the foul-tasting medicine this chapter offers, alongside some more wholesome food, is extremely necessary to restoring the health of our ailing civilization.

In the last chapter, we developed a method of reasoning about sexual ethics by applying the Golden Rule in light of the insights of sociobiology. We applied it to a few light examples, and found that it gave us plenty to say, without really settling anything. But when I turn to the real rules of Christian sexual ethics, the firm exhortations and the stern prohibitions, something astonishing happens. Mainstream culture takes for granted that they are irrational taboos, and even most Christians seem to regard them as mysteries about which the intellect must simply submit to revelation because reason is helpless to provide any warrant for them. But I find the opposite. The arguments, once set in motion, proceed as easily as falling dominoes, and lead precisely to all the traditional rules of Christian sexual ethics. Then, once you've seen why the rules make sense, you can't unsee it. I've almost lost the ability to imagine why anyone doubted them.

It seems downright providential that such powerful argumentative ammunition has fallen into our hands just in the nick of time. Darwinism, the single most important cause of the West's intellectual irreligion, turns out to thoroughly refute the rather juvenile notions of innocent sexual spontaneity that reign in the modern West. Darwinism shows why sexual instincts are such powerful, pervasive, and potentially destructive influences on people's moods, motivations, and character. It shows why they are capable of providing great fulfillment and happiness, but also

terribly prone to lead to violence, exploitation, treachery, depression, and negligent upbringing of children, unless they are held strongly in check by social norms and personal willpower. In fact, Darwinism provides a basis for stronger, clearer, and subtler arguments in favor of the whole array of old Christian sexual rules than have ever been available in the past. My task in this chapter turns out to be easy, because Charles Darwin and Richard Dawkins and other theorists of evolution have done nine-tenths of the work for me.

Once you understand the ramifications of Darwinism for sexual ethics, it becomes clear why the Sexual Revolution was a mistake, why it sowed the seeds of so much heartbreak and misery, and why we should unlearn all its lessons and restore chastity and family values. And Christianity's teachings on sexual ethics, far from being a liability, are a great piece of evidence in favor of the truth of its larger claims. Christianity solved one of the great riddles of human existence, then kept its head about it when everyone else is continually losing theirs. It is sane about a subject that always makes men mad, wise about a subject that always makes fools of them. Doesn't that prove that it's *divinely* wise? Isn't there something supernatural about the way, at its touch, a terrible tiger became a beautiful and gentle workhorse?

But I'm getting a little ahead of myself.

I'd better start a very unpleasant topic indeed, which even C.S. Lewis usually wrote about only obliquely or symbolically. I feel the need to apologize for talking about masturbation directly and openly. But the internet, with its easy abundance of pornography, has made it such a terrible problem that I think it needs to be faced head-on, even though it's yucky to talk about. And the argument here is good training for the rest of the arguments we'll be making, since much of the reasoning cross-applies.

Why are masturbation and pornography morally wrong? Do they hurt anyone? Sure they do. Masturbation is a solitary act, but others are affected too. At a minimum, time spent masturbating to pornography is time not spent serving others, directly or indirectly. But it goes beyond that.

Masturbation is almost always treated as a shameful secret. To admit to it evokes disgust. Secrets are inconvenient. Certain innocent questions about what you were doing at time X have to be ducked or dodged or evoke blatant lies. Living spaces need to be arranged to provide a certain kind of privacy. Porn addicts tend to become socially withdrawn and shy, unable to

engage with pleasure in spontaneous conversation. It's naive to think that a masturbation habit that takes relatively little time is nearly costless. As one loud, off-key singer can ruin a choir, or a few strokes of graffiti can go far towards spoiling the beauty of a great painting, so a daily masturbation and porn habit alter the whole flavor of life and character of a person, always for the worse.

The sociobiology of masturbation would seem at first glance to be rather mysterious. Why would the selfish genes put up with it? They want us to procreate. Using the sex organs for masturbation defeats that purpose by channeling sexual energy and desire in an irrelevant direction. But the selfish genes operate at a subrational level, working crudely with mere sensory data. They can't engage with our actual knowledge of our actions and their consequences. There are birds who will sit on any egg-like object in their nests, even if it's much too big to be one of their eggs; the larger, the better. Cows' milk is diverted to human use because cows' bodies, when milked by human hands, think they're feeding calves and respond by producing more milk. Likewise, pornographic images and masturbatory movements trick the selfish genes into thinking that they're hitting the reproductive jackpot. A common result for men, according to many, many recovering porn addicts, is an inability to make love to real women, as the body becomes rewired to perceive sexual opportunity in sexy images with which real female bodies cannot compete. As porn addiction escalates, it takes more to enable addicts to get off, and they tend to be driven to different and more disturbing genres. No wonder they become withdrawn, with minds haunted more and more by images that decent people would regard with disgust and horror. With thoughts that must not be spoken aloud, what have they left to say?

That's not what men were made for. God made the human race in His own image, to reason and know, and to enjoy and rule all creation, and most of what we like to do grows out of that divine mandate. Gardening, singing, dancing, hiking, building and all manner of work, caring for pets, looking after and teaching our children, helping our neighbors, talking and reasoning and studying— all these activities honor the divine image. They are consistent with the human vocation, even if in our fallen state we can't do them well or in right measure. Many of our impulses and instincts are good. In making love, too, to our spouses, for procreation or even simply the expression of love, we honor the divine image in ourselves, for while

God does not have sex, He does create and love. Still more does sexuality enhance our humanity when our sexual instincts are sublimated into virtues calculated to please the opposite sex. A man is often brave to impress a lady. A lady often makes herself beautiful, or better yet, is kind and patient and pure, in order to please men. But in masturbation and pornography, we depart from the human vocation. We become, to use a word that has intense rhetorical force even if we hardly know what it means, *subhuman*, the pawns of our lowest instincts and chemical addictions.

What does the Golden Rule say about this? Do unto others as you would have them do unto you. Would you want *others* to masturbate more, or less? Or not at all? Perhaps some would attempt to say that they want others to let off steam or have a good time, or that they don't care and it's none of their business. Such sophistries are easy to say, and might help to dodge an unwelcome moral conclusion. But the wiser and truer answer is revealed in the disgust we all experience on witnessing any act of masturbation, a disgust so obvious and nonnegotiable that public masturbation is practically unheard of even in the most insistently "liberated" and "sex-positive" subcultures. *Of course* we don't want our neighbor to masturbate, because it's an utterly selfish and useless action, which wastes the scarce resources not only of time, but of imagination, sexual potency and desire, interest in life, openness and honesty. It is, if anything, more selfish than any other act except suicide. Even if our neighbor is only going to please himself, let him do it in any other way, in a way we can watch and talk about and learn from! We might get some vicarious pleasure, and some good ideas, from watching him enjoy a great feast or drink a fine wine, drive a splendid car or live in a gorgeous mansion, and if he dresses in magnificent clothing, he may please our eyes as much as he appeases his own vanity. But masturbation takes the best out of us, and gives nothing back.

There is an interesting contrast between the privacy of marriage and the privacy of masturbation. Married couples don't want to be seen copulating. They don't talk about copulating in public either. Yet it's very far from being a secret. In traditional cultures, and to a large extent even today, a wedding is the most public event of most people's lives, the time when the largest crowd is assembled to see *them*. And everyone knows what will happen on the wedding night. Nothing could be less qualified to serve as hot gossip than "Mr. and Mrs. Smith had sex!" Well, duh. Of course they did. But people don't just not want to be *seen* masturbating, they don't want

it to be *known* that they masturbate. To be called a great lover is a compliment of sorts, though not suitable for all ears or contexts; but to be called a great wanker is about as shameful an insult as can be conceived. The mingled privacy and publicity of marriage is a fascinating mystery, but the intense privacy of masturbation is a confession of guilt. Every act of masturbation steals from one's fellow men, and mars and defiles life. There is no excuse for it at all. It has no place in the good life for man. This is an enemy to which we must give no quarter. It must be purged utterly, and then, if possible, forgotten.

Masturbation, for the man or woman who has become its prey, is the most pervasive of temptations. For other sins, the motive and/or the opportunity is rare. Most of us rarely if ever have people we want dead. Even if we do, people can defend themselves, and murders get investigated. Most married men most of the time have no opportunity to commit adultery. But masturbation is available whenever you're alone. Other sins try to tempt us by wearing masks of good. Murder calls itself justice. Adultery calls itself love. Greed calls itself prudence. But masturbation cannot pretend to any kind of goodness. It says instead that no one will know, that it will take only a little time, and that resistance is futile because you know will give in in the end. An addict of porn and masturbation who lives alone or works a solitary office job faces a vast, bleak expanse of hours every day when porn is just a few clicks away, masturbation just a few tugs, and nothing else seems to satisfy. He can say no a hundred times and the agony of willpower must still go on, for what seems like forever.

There are tricks. Leave your office door open. Take a walk. It's very, very hard. But it's not impossible. And the fight is worth it. Masturbation is a dark, strangling tunnel of despair. It is a zero-sum game played against life. Defeat it, and you can take an interest in things at a whole new level. You can be open and honest all the time, not lying, not hiding and sneaking like a sewer rat. You can look back with healthy disgust and easy superiority on the old obsessions to which you were once wretchedly enslaved, when you think about them at all, which you hardly ever will.

Premarital sex, more precisely described by the fiercely moralistic word "fornication," is as alluring to most of us, or to most men at least, as masturbation is disgusting. I have read writers that try to inculcate attitudes of spontaneous disgust at unmarried people having sex. Good luck with that! I won't attempt it here. Any man (women are a bit different) so pure-

minded as not to feel temptation at certain thoughts and images is above needing advice from me.

Nonetheless, fornication is wrong, and we can see why by combining selfish genes sociobiology with the Golden Rule. Fornication can be like masturbation, a shameful and secretive addiction. But the far commoner problem is a kind of *exploitation*, whereby the selfish genes of lovers play ruthless games at each other's expense, while the conscious minds of the lovers, acting as pawns of the selfish genes, feel alternately romantic, bored and heartbroken through successive infatuations, seductions and betrayals, leading to wasted years and ruined lives.

Sex with “no strings attached” is by nature extremely appealing to men, much less so or not at all to women. If he only consulted his raw preferences, and not his reason or moral principles, a man would probably have sex with most women at any opportunity. That's certainly what evolutionary psychology suggests, and men will tend to confirm it, as, I think, do some experiments which I'm reluctant to cite since they're ethically questionable, and lots of literary evidence.

For women, sex naturally creates a sense of attachment and belonging, and a desire for an ongoing relationship, if it didn't exist before, though it probably did, since otherwise she wouldn't have consented to sex. Sex can make a man more eager to leave. He's done what he came for and wants to get free before she finds a way to tie him down. Hit and run. For a woman, even in the rare case where she didn't feel much attachment or forward-looking interest before, sex will create a sense of attachment that may take her by surprise. Her selfish genes know that she might be pregnant, and if so, she'll need a man's help to raise the baby, and the father is by far the most promising candidate to provide it. So her instincts say: Hold onto him! The selfish genes will give her these instincts even if she knows, e.g., based on contraceptive use and a pregnancy test just to be sure, that she isn't pregnant.

These highly asymmetric and powerful instincts must be taken into account when we think about the meaning of “consent” in sexual acts. Mainstream society now holds that premarital sex is fine, legally and morally, if only a woman consents. But what does she consent *to?* To be seduced and abandoned? Or to the formation of a sexual relationship continuing into the future, perhaps indefinitely? What were her expectations? What were her hopes? If she had expectations, what did he do

to encourage them? Did he make any promises, perhaps some that he has forgotten? Did he flatter her along the path to seduction, in ways that gave her expectations warrant? And how can he even remember?

Lovers in the bedroom are characteristically, and in a way ought to be, too excited to be accountable for their words. “Pillow talk,” as the old phrase puts it, is naturally spontaneous and irresponsible, a kind of verbal foreplay, springing from instinct to heighten enjoyment. It's well worth enjoying, but shouldn't be taken seriously, as if it were written by lawyers negotiating a contract. Yet it has to be, if the permissibility of every sexual act depends on consent. The recent “campus rape crisis” is revealing, for it has shown that some young women feel strongly that they have been raped, after sexual acts to which they consented hastily, rashly, or under some sort of merely social or emotional pressure that was not physical coercion, perhaps while intoxicated. This seems irrational, but sociobiology gives some justification for these feelings, for it shows that a man who has sex with a woman without marrying her damages her, burdening her with unfulfilled feelings of attachment to him, and lessening the value instinctively placed on her by other men and even by her own parents and other kin, and above all by herself. In older times, the law did not place quite so much weight on consent. Rape was a more serious offense than mere fornication, but fornication was still illegal. But we are concerned here with questions not of law but of ethics. How should the Golden Rule be applied to fornication?

A naive application of the Golden Rule to fornication would be that if A, a man, wants to have sex with B, a woman, A “does unto others as he would have them do unto him” by seducing her. This is mistaken because sex has a different meaning for him and for her. The question isn't whether he would like to have sex with her, but whether *if he were a woman*, he would like to be seduced and abandoned by a man like himself, with all that entails, from possibilities of pregnancy, to unfulfilled feelings of attachment, to the need to keep a guilty secret from parents and friends and maybe a future husband, to damaged marital prospects, etc. Probably not. Her consent is certainly not sufficient evidence in favor. For one thing, he cannot know what hopes, expectations and desires she may harbor of attaching him to herself permanently. If she wants him to marry her, she might not tell him, to avoid scaring him away. For another, it's quite likely that she may be blinded by sexual passion into making decisions she'll

regret. That happens all the time. There are really no cases when he can be justifiably confident that she is acting in her own best interests by fornicating with him, and therefore, that he is not violating the Golden Rule by seducing her. The only ethically safe thing for a man to do is to refrain altogether from having sex with unmarried women.

For a woman, the application of the Golden Rule is quite different: it is not the harms to the man she should worry about, but to the many others who have a stake in *her*. Fornication probably won't hurt him much, except in a moral sense. He'll enjoy himself, and feel very pleased with himself, and might brag to his friends, and feel more confident with other women. A string of sexual conquests can spoil a man and turn him into an arrogant jerk, but never mind. That shouldn't be her main concern. A man who's trying to seduce her without marriage isn't worthy of her sympathy. Instead, let her think of more deserving people, such as the parents who raised her, siblings and friends who are close to her and love her, teachers and pastors and anyone who has been kind to her and invested in her throughout her life. What would *they* think?

Modern society would tend to say it's none of their business. Yes, it is. We ought to be grateful to our benefactors and, all else equal, do what would please them. People who “pay it forward” by investing in the younger generation, feeding them, and teaching them, have a right to expect that those young people try to live up to expectations as far as conscience permits. Until the past couple of generations, few women could doubt that all who have loved and invested in them throughout their lives would desire intensely and unambivalently that they remain chaste until marriage. Now it's a bit more complicated, because some of those who invested in her may buy into the fashionable ideology that fornication is no one else's business, and would try to suppress their natural aversion to seeing their darling girl slipping into some stranger's bed. Even so, if she asks which course of action, chastity or fornication, would be more conducive to the peace of mind of all those to whom she owes a debt of gratitude, she can't really be in any doubt about it, even in a contemporary social context. No one feels an instinctive aversion to chastity in young women.

Another group for whose sake a young woman should stay chaste is all those young men who might court her with honorable intentions in the future. Wouldn't they be disappointed if, having fallen in love with her, they find out about some past lover who had her before? The revelation may

drive away future suitors, which is one reason why fornication is *imprudent* for women: it damages her marriage prospects. Yes, it's safe to assume that's so even today, for men's instinctive preference for virgins is rooted in the selfish genes and can't be erased by political correctness. A young woman may feel that she's sacrificing herself to her lover, damaging her own prospects to satisfy his suffering desire or her own, but that she has a right to do so, for it’s her own prospects that she is sacrificing, and future suitors have a right to walk away if they don't like it. That misses the point that she impoverishes them all when there is one less virgin bride on whom they can set their hopes. And if they set their hopes on her and then *find out*, it's hardly a sufficient consolation that they're not bound, but are free to give her up. Then again, perhaps she won't tell them, and they'll find out later, and feel who knows how much torment of retrospective jealousy. Maybe they'll feel she cheated them. Maybe they'll tell her about it, or even leave her because of it. Maybe they'll suffer in secret. Or maybe she will confess her past to a future suitor, or he'll find out some other way, and he'll marry her anyway. How much regret, or guilt, will she feel that she could not give herself to him pure? How much will it spoil his delight in her love? Or maybe her future husband will never find out, and she'll carry the guilty secret in her heart for decades, to haunt her in precious moments, and reduce what she has to give him. Maybe he'll guess. Maybe she'll never know whether he guessed or not. What a price!

More important, if anything, are the interests of her future children, starting with the children that might come from the act of fornication itself. It's a cruel fact of life that a household headed by a single mother is not a very viable economic unit. Child care is naturally a full time job. Earning a living takes most people one-third of their waking hours or more. So a single mother is likely to be poor and/or dependent on public assistance or private charity throughout her child's youth, unable to purchase extra services that could help her child have fun or get ahead. Worse than the lack of money will be the lack of her own attention that she can devote to the child. Worse still, perhaps, may be the lack of social status. Our society, to its credit, has suppressed the open scorn for “bastards” that was so common in the past. Yet the fact remains that one of the most salient facts about any child is who their parents are, and a child that has no contact with his or her father will have to report this troubling fact in response to innocent questions again and again, probably feeling a little shame every time, and

probably making the questioner secretly and vaguely feel that this child is from a troubled background and probably won't amount to much in life. Statistically, poverty and broken homes are major determinants of life outcomes, with the children of poor backgrounds and single mothers being more likely to be poor, commit crimes, do drugs, and get pregnant out of wedlock, and much less likely to go to college.

Deprivation of a father also harms children because they instinctively want to know their fathers. There are two sociobiological reasons for this: first, the father is a likely source of help in childhood; but also, the father is a mature expression of many of the child's genes, and therefore an imprecise but useful prophecy of the child's future. “Like father, like son,” as the saying goes, and this is true for reasons of both nature and nurture. A child raised with limited or no contact with its father will miss the nurture pathway, but mere genetics will create powerful resemblances, so naturally children should be curious about what their fathers are like, as a glimpse of what they themselves will be like. That's useful, for one thing, because one can plan or prepare based on one's future traits. The special kind of love between parents and children and the special value of knowing one's parents or one's children are such that *every child has a right to know his or her mother and father,* and to try to secure this right as widely as possible is one of the most important duties that society has. It's not feasible to secure it for everyone, just as it's not feasible to completely secure the right to life by preventing all murders, but society must try. Why was slavery such a terrible evil that it was right for the United States to fight a terrible war to end it? One of the most important reasons was that slavery often resulted in the forcible separation of families, when a husband or wife or father or mother or child was sold. Modern artificial insemination, similarly, is wrong because it results in children not knowing their biological fathers, and adoption, though not wrong in general, is only justified in tragic cases where it is not feasible for a child to be raised by its parents. One reason why fornication is wrong is that it often results in children being raised without their fathers, or worse, aborted, that is, murdered in the womb.

But even if a woman doesn't get pregnant by fornication, her future children are likely to be harmed. Her past will be either a guilty secret from them or a bad example. Children naturally want to know their parents’ backstories. As they encounter the chances and changes of life, they look to their parents for voices of experience, and ask, “What did *you* do about

this?” They'll probably want to know, for example, whether their father was the first man their mother was with, and vice versa. A mother who has to admit that she committed fornication will tend to lose authority to urge her daughters to remain pure. The exception that proves the rule is that a mother who has thoroughly repented of her past fornication, who has changed her life and ceased to be the sort of person who would do that, may offer as edifying and persuasive an exhortation to chastity as a mother who has practiced strict chastity all her life. But she can do so only by denouncing her past self. And a mother who has kept this secret hitherto, perhaps even from the children's father, may be forced to choose whether or not to lie. For fornication is not the sort of secret that can be reliably kept in the long run without resorting to lies to protect it. Another reason why a woman who fornicates wrongs her unborn children is that they may have a different father, and probably a less valuable one, than if she had stayed chaste, since a sexual history generally damages a woman’s value and prospects in the marriage market. For the same reason, children she would have had may not be born at all.

And the consequences don't stop even then. Her sons and daughters are likely to follow her bad example. Fornication can thus run in families. Most societies have some notion of honor or nobility that is related to the transmission of family tradition down the generations through honorable marriage. Christianity doesn't particularly encourage this kind of family pride. It insists that we are all related, fellow descendants of Adam and Eve, and there is in that enough honor to keep us hopeful and enough shame to keep us humble. Christianity is no “respecter of persons,” and for its own purposes treats the high born and the low born in just the same way. Still, people like to hoard their genealogies, and to be proud of their ancestors. Often the mere antiquity of an ancestor is a point of pride, even if he or she was undistinguished, but if you remember enough ancestors, at least some of them will probably have done something interesting. But in cultures that value family tradition, the chain of honorable marriage must be unbroken. Illegitimacy spoils it. One might as well stop tracing one's ancestry when it forces one to admit to that.

It's counterintuitive for us to count the cost of the Sexual Revolution in the number of honorable lineages that it has extinguished through childlessness or illegitimacy. But it would have been natural for many past cultures to see our times that way. And we feel that loss too. Elderly people

love to treasure their grandchildren, if they have them, and feel the lack, if they don't. And then there is the more complicated case where they have grandchildren by unmarried daughters, their upbringing difficult and their future doubtful, their very existence a reminder of shame. Or again, there are grandchildren by unmarried sons, whom one may not only scarcely see, but scarcely get to know secondhand, for even their father rarely sees them. Many of those of us who can do so without awkward revelations still like to talk about grandparents and great-grandparents, etc., their origins and their adventures. It's an innocent pleasure, and it's sad to be deprived of it by a checkered family history. It's *fun* to resemble one's ancestors. But one can't do it nearly so well if one is not enabled to do it by one's upbringing, and that's why family tradition and honorable marriage are connected, because marriage usually provides a fairly stable, loving environment, full of parent-child interaction and teaching and learning, where the transmission of family tradition can occur. Illegitimacy turns one's ancestors into strangers.

When a woman summons her willpower to resist a seducer, all that hangs in the balance. Her choice will echo down the generations and centuries, probably for good if she chooses right, almost surely for ill if she chooses wrong. The stakes are terribly, terribly high, so high as to beggar the imagination. That's why most societies have felt the urgency of educating young girls in the duty of chastity. The modern West has tried to deny it, to its terrible cost.

Imagine a wealthy society with well-paved roads and lots of cars, but no traffic laws. Elites in this society insist that roads must be free by the loftiest principles of liberty, and any interference with what a driver does there is forbidden. They denounce the dark old days when tyrants presumed to set speed limits and erect stop signs, and solemnly vow “Never again.” They take very seriously the consuming passion of speed demons and racing in the street, and solemnly affirm their respect for this lifestyle choice or (by some accounts) innate identity, while quietly passing zoning laws that price demographics prone to racing in the street out of the neighborhoods where they live. When high speed racing bursts out in the street, they don't call the cops or even condemn it in newspapers or public speeches, though they do avoid the parts of town and times of day when it's most likely to occur. They learn to look the other way, unconcerned, when they pass flaming wrecked cars on the road. Freedom has its price. And they patiently pay their taxes to support all the cripples and orphans that the

frequent car wrecks produce. Through it all, they pride themselves on being the enlightened society where juvenile joy riding is given its place in the sun, and the lifestyle choice of the speed demon is tolerated and respected like any other.

Well, the West is that society, with the difference that it is with respect to sex rather than driving that we practice cruel and unreasonable tolerance. We ruthlessly leave people, even very young, inexperienced people, free to make terrible mistakes, and pay the life-shattering price, withholding even public warnings and official disapproval. Good advice about sex is a kind of heresy in some quarters, and must be given surreptitiously, and at some risk to the giver. Wiser, more practical societies, of which the history of Christendom affords many examples, did their best to prevent the life-shattering mistakes. In various ways, they managed space and kept eyes on people to make fornication physically difficult, and urged chastity in pious sermons from official pulpits and through blunt gossip in the kitchen and the street. The West should come to its senses one of these days, and find a way to enlist all sensible and mature people in a cunning, implacable conspiracy to protect young people from their selfish genes.

"Free love" is a powerful and alluring idea, and I have a feeling that some who are under its spell will be impatient with my argument so far. Can't we get past these old hangups? Do we really need to govern our sex lives in a manner shaped by instincts which, by my account, are adapted to the Stone Age? We have good contraceptives now, and an adoption system, and law and order, and gender equality, and a welfare state. Can't we leverage our modern advantages to get more sexual delight and adventure? Part of the answer is: no, we can't leave the old hangups behind, because they're hardwired into our genes. Ethics must deal with human nature as it is, not as we might wish it to be. But also, it would be worse if we could. To alter human nature to make it compatible with the Sexual Revolution would not make for a better world.

I've heard that our private relatives the bonobos live the peaceful, hedonistic promiscuity to which the Sexual Revolution has long aspired. Females have no inhibitions and mate freely. Males don't fight over them: there's plenty of access to go around. The ratio of sexual acts to pregnancies and births is huge. I'm not enough of a biologist to assess whether the characterization is accurate, and I don't need to. It strikes me as plausible and will do for a concept. Should we wish humans were like bonobos?

Should we try to make them more like bonobos through some kind of social engineering? No doubt the notion would appeal to many.

But on second thought, the price is too high, for sex would cease to be *significant* and to create attachments. It would be like a kind of cooperative masturbation, mere selfish pleasure, transactional and empty. Maybe we can't feel quite the same spontaneous repugnance to such promiscuous sex as to masturbation, but we can ask whether it's worthwhile to spend so much time on an activity that creates nothing and isn't an expression of love. Inhibitions, attachments and jealousies turn sexual relationships into a real interweaving of life stories in self-giving love. That's what would be lost if we turned human beings into bonobos. If we should wish for a different human nature, we should wish for more monogamous instincts, so that we could achieve the mingling of lives in love and family formation without the distracting temptations. Such was human nature before the fall, according to Christianity (see Matthew 19:1-9). But such instincts would not have been adaptive in the Stone Age, and propensities for infidelity and polygamy would have conferred an advantage in genetic competition, and spread. That's the instincts that we need to overcome.

And that brings me, belatedly and inadequately, to a happier theme, Christian marriage, yet I foresee that I won't be able to do it justice, and will leave an unbalanced impression, emphasizing the dark side of sexuality more than its joyous and wondrous and blessed side, as Christian theologians and preachers have often done before. I once took a course on strawberry growing, and the instructor had much to say about soil preparation, weeding, watering and pest control, but only spoke for a few minutes about everyone's favorite part of the process, harvesting, for which he half-jokingly apologized. In a sense, strawberry harvesting is more important than mud and bugs and weeds. Yet the instructor’s emphasis was practical. Harvesting is easy. Managing the mud and bugs and weeds is the hard part, and if you do that right, delicious strawberries will probably follow. In the same way, this chapter, and to some extent the whole Christian tradition, has focused on the unpleasant work of warning and forbidding and disapproving, so that the garden of love may be fruitful.

Happy marriage isn't as easy as harvesting strawberries, yet it really is outrageously easy compared to the happiness it gives, if you've had the sense, or the luck, to arrange things so that the selfish genes are working for you rather than against you. If rival love interests, past, present, and future,

can somehow be taken completely off the table, kept out of sight and out of mind, then your selfish genes and your spouse's feel an almost perfect harmony of interests, so it becomes natural to love and serve each other wholeheartedly, and together to delight in and labor for any children you may have.

In-laws are the one big difficulty. From the selfish genes' perspective, he has his parents and siblings and nieces and nephews, and she has hers, and he wants to see and serve his, and she hers. Interests diverge. Be warned! And so the Bible teaches that "a man shall leave his father and mother and cleave unto his wife." That's not a hard and fast rule, just a casual generalization and a piece of good advice. Sometimes married children have to live with their parents in hard times, and that can be pleasant enough if everyone handles it gracefully. But it won't quite come naturally. The ideal is for each married couple, with any young children, to have their own house.

Happily married people share everything and enjoy each other's company and serve each other every day, usually without even needing to try very hard, year after year, decade after decade, as fashions and corporations and war and peace and booms and depressions come and go around them. A license to make love as much as you like, in complete innocence, is sweet, splendid, exquisite, and delightful. One never quite gets over being amazed by that privilege. And yet it's only the cherry on top. It's not sensual pleasure but a special harmony of instincts, often called "love" in one special sense of that word, which includes sexual desire but casts its spell over the whole of life, that is the greatest solid good that sexuality confers on those who find their way to faithful, monogamous, lifelong marriage.

As the old Christian phrase puts it, a husband and wife are "one flesh," and I think evolutionary psychology sheds a brilliant new light on the meaning of that phrase, without reducing the mysterious and sacramental character of Christian marriage. For as a unity of genetic interests makes the parts of your own body spontaneously cooperate, so the unity of genetic interests between husband and wife makes them spontaneously cooperate, with a naturalness and grace and pleasure that mere friends could hardly hope to achieve if they dedicated themselves to the perfection of their friendship for a lifetime. Other collective lifestyles, such as those of a monastery or an army, tend to be very regimented, because there is no

natural harmony of instincts among the members, so rigid rules are needed to make them cooperate. Marriage, by comparison, is remarkably free and spontaneous. If strict, inviolable rules of sexual exclusivity and permanence are in place, instincts do much of the remaining work. The moral will must be hard at work, too, of course, and marriage and especially parenthood requires daily self-sacrifice, but it’s not hard to get into a groove where that comes naturally and feels good. When big decisions need to be made, couples should talk it over and decide together, but if they can’t come to agreement, Christianity has a solution to that as well: “A husband is the head of his wife, as Christ is the head and Savior of the Church” (Ephesians 5:23). In marriage, the man ultimately has the casting vote, but the price is that he especially must sacrifice himself for his wife at need, even to the point of death if it came to that.

And faithful, monogamous, lifelong marriage is a Christian discovery! Or at least, if many had enjoyed it before, only Christianity institutionalized it. Today, likewise, while many enjoy faithful, monogamous, lifelong marriage, only Christianity resolutely upholds and guards it. All societies seem to have had marriage, in the sense of a publicly acknowledged relationship binding a woman to a man, such that sex can occur between them without dishonor to the woman. But pre-Christian societies didn't require monogamy and sexual fidelity from married men. Most societies have allowed polygamy, and while the ancient Greeks and Romans did practice monogamy in the sense of permitting men only one official wife—and I suspect this is a major reason why they achieved so much—they regarded prostitution, and the sexual utilization of female slaves (I.e., rape, from a modern, and truer, perspective, but they didn't think of it like that) as normal and acceptable. Christianity confirmed, and confirms, men's insistent feelings of ownership in their wives’ bodies, but makes it reciprocal, and the husband must regard his body as belonging to his wife, not to be lent to another woman. Today, secular people take monogamy, and usually also the expectation of mutual sexual fidelity, for granted, but they have no authority from which to derive a strong condemnation of divorce, so modern secular marriage has become, so to speak, an “at will” affair, without the sacred “one flesh” unity of Christian marriage.

About children, the modern West is neutral. A few worriers about overpopulation would discourage childbearing, but most secular Westerners would leave it to married couples’ preferences to procreate or not. By

contrast, Christian churches tend to make it at least a soft obligation for married couples to have children if they can. They say marriages should be "open to children," and some discourage or forbid the use of contraception. Why?

First, a married couple has two people, so if there's a decision to be made about whether to have children or not, how is it to be made? There can be no majority vote in a society of two. Should the husband decide? The wife? Or do both have a veto? If it's a choice, it's likely that the default will be to have no kids, and a spouse desirous of children will yield for the sake of peace. But we know from evolutionary psychology that the instinct to procreate is very fundamental, and to sacrifice that is likely to lead to lifelong regret. Christianity thinks a spouse should not impose childlessness on a spouse.

Second, children benefit from the gift of existence, don't they? Married couples have the chance to confer that benefit. Shouldn't they do so? And yet if we follow this logic all the way, we would conclude everyone ought to have as many children as they can, that human life may abound. That seems too extreme. Maybe a good compromise is to forbid contraception, so that married people don't have to maximize reproduction, but their means to limit it require more self-restraint than most will exercise, so the interest of potential children in getting the gift of existence will be reasonably well served. But Christians differ about that, so it's not my business to insist on it in a general apologetic book. It's enough to say that Christian marriages should, in general, be open to children.

It's probably just as well that this chapter is already too long, so I don't feel I can spare much space for a topic that has been rather too much discussed in recent years, namely, homosexuality. Unfortunately, some people, though very few, probably less than 1% of the population, feel erotic desires chiefly or exclusively for people of their own sex. It has sometimes been claimed that such desires are genetically determined and innate, but that can't be true, because identical twins with exactly the same DNA often differ in their sexual orientation. If one identical twin separated at birth is gay, the other probably isn’t. Nonetheless, it seems clear that homoerotic attraction is often involuntary and can't be stopped merely by choice.

Christianity counsels those who experience homoerotic desire not to act on it. Those who feel exclusively homoerotic desire may reasonably feel

that this makes it impossible for them to marry. Lifelong celibacy is a heavy demand to make. Mainstream society has come to find this unreasonable, and prefers to approve of homosexual sex. And the unique institution of same-sex “marriage,” which would have sounded like a sick joke to the vast majority of historic mankind, has been introduced, partly, it seems, as a way to compel approval of homosexual sex, and partly because people are so confused about the meaning of marriage that they don't know how to resist any redefinition of it.

In fact, no state of marriage can ever exist between the members of a same-sex couple, because the genes and instincts in play are quite different. As an actual, empirical fact, same-sex couples do not exhibit the same propensity for lifelong fidelity that married, heterosexual couples do. And there is no reason, morally speaking, why they should. Gay men are generally not exclusive in their sexual relationships. Why should they be? Men's selfish genes insist on fidelity in wives, because of the imperative of paternity certainty, but prefer promiscuity for themselves. A gay male lover can provide no offspring, so there's no genetic incentive to insist on his fidelity. Similarly, lesbian relationships are generally less enduring than straight marriages, for there's no need to secure permanent attachment of a lesbian lover for the sake of parental investment in shared offspring. Marriage has an ethical aspect, in that married people *ought* to practice lifelong fidelity, and society *ought* to recognize and support their determination to do so, and these moral facts are indispensable to the definition of what marriage is. But no moral duty of lifelong fidelity can exist between same-sex couples, nor has society any duty to recognize or encourage a lifelong fidelity in them that lacks a basis in their instincts or fruits in the welfare of children.

Nor is there any reason to regard same-sex couples as familial units. Marriage creates kin relationships, because, for example, a son-in-law’s children will be the father-in-law’s grandchildren, creating an instinctive allyship. But a gay male lover or lesbian female lover will never be a blood relation at second hand, so the basic reason why spouses should be recognized by relatives as kin does not apply. In general, the institution of gay “marriage” involves a kind of playacting. We pretend it’s the same thing, out of pity, but we're not being honest, because it isn't.

The disproportionate attention paid to gay marriage in recent years may be motivated by a widespread desire to redefine straight marriage. The

social meaning of marriage in mainstream society has been greatly weakened over the past couple of generations by tolerance for premarital sex and the new legal ease of divorce, as well as widespread contraception and legal abortion. Many want to be “married” without locking themselves into lifelong promises, and especially, without sacrificing their careers, hobbies, and/or independence to the all-consuming duty of childrearing. But they would have reason to worry that their marriages would seem less real and respected than those of people for whom marriage meant a commitment to permanence, exclusivity, and fertility. The campaign to extend marriage to same-sex couples has helped to fulfill the Sexual Revolution, focusing attention on and lending authority to childless, at-will marriages, and marginalizing the old ideal of Christian marriages. This makes it more important than ever for Christians self-consciously to commit to Christian marriage and not to whatever the word “marriage” means or might mean in future in secular society. Secular society no longer knows what marriage means. Christians must look to their own traditions for the meaning of marriage and ignore contemporary mainstream society, which is now only a source of confusion and temptation on this topic.

People feel a natural repugnance to homosexuality, which is probably significant, but I won't try here to discern how. I can't interpret the repugnance or take lessons from it. What I do know is that sexuality is very absorbing, and tends to soak up lots of time and energy that could and would be put to other uses. Marriage is a distraction from so much else, and it would impoverish society if it didn't give back in the form of children. But with same-sex couples, we know in an advance that they can never produce offspring, so there is no social gain to offset the loss.

Of course, there is now gay adoption, so children might be involved after all. But that makes it worse. Sociobiology makes clear why it’s best for children to be raised by their biological parents. But adoption by a straight couple can more or less fool all the selfish genes involved, and simulate a natural family. By contrast, the selfish genes are obviously not so stupid as to think two men or two women can be the parents of a child, so the helpful instincts do not come into play. And of course, while our society permits much that it shouldn’t in the name of “consent,” the principle does have some force, and the fact that children can’t consent to gay adoption greatly exacerbates our society’s guilt in subjecting them to it. No Christian should collaborate in this wicked traffic in children, and some Christian

adoption agencies have rightly shut down their operations rather than let themselves be forced by evil city and state governments to broker gay adoptions.

Will a person burdened with homoerotic desires serve his fellow men better in resolute celibacy, with a possibility that heterosexual desire and chances at fertility may appear at some point, or by committing to, and pouring scarce time and emotional resources into, a necessarily infertile sexual relationship, to which others feel natural repugnance, and perhaps forcing them to pretend that it’s a marriage? Celibacy, of course, is the better choice.

Finally, there is one point of historic Christian sexual ethics, to which not only modern but even most of Protestant civilization is decidedly cold: praise of and encouragement of lifelong virginity and the monastic life. Jesus prophesied monasticism when He taught that “there are eunuchs in the kingdom of heaven” (Matthew 19:12). There is an aspect of monasticism that unbelievers can't be expected to understand: the joy of prayer, of the simple life, of ever deeper humility, of encountering God in the wilderness. But there is another aspect of it which it's really rather stupid of the modern West to fail to understand. For monks and nuns are useful.

The marriage market can't match everyone. Accidents of taste, gender ratios, etc. inevitably leave some people mateless. So it's nice if there are communities they can go to to avoid being lonely. That's one piece of the puzzle. But there are also jobs that don't fit well with being married and raising a family, such as a life of exploration and colonization of new lands, a life intensely devoted to scholarship and education, a life of service to the sick or the poor, or a dissident life, peacefully but dauntlessly critiquing a bad regime. Monks and nuns have done all this and more, with vast benefits for civilization along the way. It helps that they form such stable, tight-knit communities, living together and holding all things in common. Family people can't do that, because families need privacy. But monks and nuns are different, and often they are able to do things that secular people can't, because of their family obligations. The Benedictine monks were the great bridge of literate civilization across the Dark Ages, copying texts and preserving the skills of reading and writing, and Mother Theresa resolutely served the poor of Calcutta, to cite just two of many, many examples.

Christendom was not the first to value celibacy. The Greeks admired the virginity of the mythical divine huntress Artemis. In Rome, for a thousand years, virgins were consecrated to Vesta, goddess of the hearth, and regarded with awe. But there were never more than six or seven vestal virgins, and their sacred virginity was not a lifelong vocation anyway, but lasted thirty years, after which they could marry. It's useful for some to forgo marriage, but celibacy is a hard vocation to recruit people to. That's not surprising, since celibacy is the death of our selfish genes, so all our instincts must be against it. Historic Christianity is unique in the abundance of those volunteering to lead celibate lives for its sake.

But Christian churches have never ordered people to lives of celibacy, or told people that it was necessary for salvation. Monasticism began as a bottom-up affair, with some enthusiasts running off into the wilderness to lead solitary lives of intense poverty and ceaseless prayer, and others following them, until communities formed around them. Why? Where does the monastic impulse come from, generation after generation? There would seem to be no explanation except that Christian prayer can be, and if practiced much tends to become, an activity so desirable and fulfilling that it eclipses all other desires, and for its sake alone will many people willingly, permanently choose to give up all the pleasures of sexuality and family, and deny all the most urgent desires and instincts of the flesh. The communities formed around the desire for prayer can then be put to many socially useful tasks, and sometimes provide a better option than loneliness for some of the unfortunate involuntary celibates that the imperfection of marriage markets inevitably makes.

In all this, no appeal has been made to the authority of the Bible, or the Church, or anything like that. It wasn't needed. All I needed to get to Christian rules of sexual ethics was the realistic view of human sexual instincts supplied by selfish genes sociobiology and evolutionary psychology, and basic Golden Rule ethics. That's not to say I could have discovered the rules if I had never been taught them. It takes great genius to invent the wheel, but it's less difficult to explain how the wheel works after having seen one. So here. It was an amazing achievement of Christianity to invent faithful, lifelong, monogamous marriage, suppress polygamy and prostitution, and all the rest of it, but now that the riddle of sexual morality has been solved, reason can see why Christianity’s solution is right. The West has to keep itself in an irrational frenzy with popular music and

romantic movies, and numb its mind with political correctness, to avoid seeing the truth about sexual ethics that Christianity long ago revealed.

Before ending this chapter, I have to make a disclaimer. These arguments are quite original. An apologist does not like to be very original, because he is trying to be the spokesman for a two-thousand-year-old tradition. In this case, as far as I've been able to discover, while older Christian teachers have certainly discussed sexual ethics, they always seem to have done it in a way that takes for granted much that the modern West doubts. Even CS Lewis and GK Chesterton, though their arguments are helpful, lacked the insights of Darwinian sociobiology that make it possible to argue for chastity with unprecedented power. As always, but especially here, I hope that readers unconvinced by my arguments will blame me, and not Christianity, for their failure, and not dismiss the faith just because one apologist'sv arguments fall short.

But I don't think they fall short, and I can't imagine readers thoroughly understanding the arguments I presented here without being convinced by them. I'm not at all tentative in presenting them. Rightly or wrongly, I find my own arguments for Christian positions that are denied by the broader culture too overwhelming to be doubted, and I pity the blindness of anyone who will still disagree with Christianity about sexual ethics after reading them. I think it's common for theorists to be overconfident about their own theories. The labor of working them out causes the theorist to be highly convinced by them as well, often more than the real strength of the arguments warrants. So please, come knock me off my high horse! If you have any residual doubts, muster your thoughts, charge in, and try to prove me wrong!

While sexual effects is one topic among many about which Christianity teaches, and far from the most important or central, yet I expect the persuasive bang for the buck to be unusually high, since this is an area where mainstream culture most often denies Christian teachings. We can describe the persuasive effect as a Bayesian updating problem. Suppose a person finds substantial appeal in Christianity, yet sees no point in its sexual rules. He therefore rates the likelihood of Christianity being true at just 20%. He thinks that chastity is right with 99% probability if Christianity is true, since it's very unlikely that he's misunderstood the Church's teachings on this point, but with only 10% probability of Christianity is false, since he sees no other reason to believe in chastity except whatever intellectual

authority maybe attributed to the Church. Then suppose he reads the arguments in this chapter and realizes the chastity is right after all. How will he rationally adjust his subjective probability that Christianity is true. Applying Bayes' Law:

$P(A) = 0.2$

$P(B|A) = 0.99$

$P(B|\sim A) = 0.1$

$P(B) = P(B|A)*P(A) + P(B|\sim A)*P(\sim A) = 0.278$

$P(A|B) = P(B|A)*P(A)/P(B) = 0.71$

So in plausible cases like this one, being convinced on rational grounds of the moral rightness of Christian sexual rules could flip a person from being largely a non-believer to being a tentative believer who grants the faith 71% odds of being true.

I think even Christian young people today usually need to withdraw, so to speak, from the bank of faith in order to subsidize an acceptance of sexual rules that they don't find convincing *per se*. The triumph of an argument from the Golden Rule and sociobiology in favor of chastity should empower them to pay back the loan to the bank of faith, with interest. My own faith in youth was weakened by the intellectual strain of believing in teachings about sex for which I saw no justification. Now that my eyes have been opened, Christianity's steadfast teaching of chastity down the ages shows how wise it is, and makes my faith stronger.

And with that, we can finally leave behind this narrow special topic, and take up where we left off at the end of chapter 9. We had been in search of the grand coherence of truth, the ultimate explanation of things, the last secret behind the world, the right worldview. And we had just dismissed one failed candidate, scientific materialism. In this four-chapter digression, we have dealt with and dispelled the two most obvious disqualifying objections to Christianity. Now we are ready to study and assess its claims as a whole. Clearly, Christianity is not, so to speak, merely one more citizen in the republic of our beliefs. It is either the rightful king, long exiled, whose coronation alone can end a civil war and restore order in our minds, or else it is a usurper who must be driven out. So let us consider the case.

Chapter 14. Pre-Christianity and the Commonsense Theology of Creation and Fall

To readers who followed my suggestion to skip ahead at the end of chapter 9: Welcome back! We've been focused on topics that are a little less grand than the very nature and destiny of the universe, such as natural history and how to read Genesis 1, and how people ought to live, both in terms of general principles and especially with respect to sexual matters. Large topics! But not quite so large as the one we were wrestling with in the chapters leading up to chapter 9, and to which we now return, namely: what is the true worldview? What is the ultimate truth about all things? What is the shape of the grand coherence of truth that can finally answer the profoundest and most universal questions of the seeking mind? That's what we'll aim to settle by the end of the book.

We concluded in chapter 9 that scientific materialism tries to squeeze the world into too small a cage. There are simply more things in the world than it can account for, things like ethics, beauty, human reason, free will, and the extraordinary design that pervades nature. It has to keep trying to explain things away, or promising to explain them away, while denying readily available commonsense or traditional explanations just because they don't fit into its oversimplified worldview. We must break free of this. We must deny its denials. We must abandon its project. The world isn't like that. Reality isn't scientific materialist. Scientific materialism isn't true. What should we believe instead?

Old mapmakers sometimes drew dragons in the corners of the map, where the real geography wasn’t known. Those dragons have become a parable for human credulity. Our minds don’t like blank spaces. When we don’t know, we tend to guess, and then forget that our guess was a guess. One consequence of this is that sometimes old ideas can linger for a long time after they're refuted, because no better alternatives have been offered, so people revert to old habits. So I want to supply an alternative to scientific materialism quickly, before readers' minds tire of skepticism and fall back into the old scientific materialist habits into which the pervasive biases of modern civilization constantly tempt them.

The famous "I think therefore I am" of Descartes is valuable, among other things, as a reminder that for us, subjective experience is certain, while objective truth is conjectural. Subjective experience is fundamental, known, and indubitable, though stultifyingly private, and often hard to describe or remember. Objective truth about things is pursued by means of extrapolation and generalization, as we seek to make sense of our subjective experiences by fitting them into a worldview. Unfortunately, the Western intelligentsia has for some time now been hard at work fitting the data into the wrong worldview, ignoring some things and misinterpreting others for the sake of the scientific materialist project. This has led, for one thing, to a neglect of serious, focused, subtle introspection. We need to try to relearn that art in order to get more of the basic data needed to populate a worldview with true concepts. We need to open our minds.

And I think the first lesson the world teaches to anyone with an open mind is its *goodness*.

When I first began to write this passage, I was sitting on my porch swing in the early evening, looking up at the branches of an oak tree, its leaves trembling in some breeze that I couldn’t feel, in front of a deep, dimming blue sky graced by ragged-edged clouds. And I was transfixed, overwhelmed by the goodness of things.

It's happened many times before and since. Such moments, such impressions, such unaccountable flights of aesthetic ecstasy are, I think, actually very common, and in one way very transient and forgettable. They are forgettable partly because they are so common, partly because they are so private, and partly by their irrelevance, that is, their irrelevance to all the troublesome business of the world, to making a living and all that. To focus on them seems escapist. A responsible part of your mind immediately begins whispering, "Don't you have things to do?..." Yet in the moment, and often in memory, too, they reveal themselves to be supremely valuable and real. To the extent that you surrender to them, let them occupy the mind, and focus on them, these experiences seem wonderfully unique, and infinitely precious. "Wow!" we say. Or "Beautiful!"

But if we've learned from Descartes that all knowledge must originate in subjective experience, we should take these experiences seriously, as evidence of something. C.S. Lewis went far down this road and ended up concluding that the experience we usually describe as "beauty" was really the desire for God. I won't attempt anything as ambitious as that. But I think

we must conclude from the world's power to delight us so transcendently, that it is good, or at any rate it has a lot of goodness in it, so much so that it wouldn't be unreasonable to hazard a conjecture taught by old Christian theologians: that everything that exists is, in its own proper nature, good

There is a lot of confusion nowadays about the purpose of education. The best education may be the one that best inculcates this conviction, that teaches the student to enjoy and wonder at so many things that the enormous goodness of the world is irrevocably revealed to the mind and the heart.

The world's beauty and goodness are so abundant that they far surpass what we could ever enjoy. I don't just mean that a rich person with infinite money would never run out of beautiful places to visit and beautiful things to look at. For each single beautiful thing or place, there is no particular limit to how long a person might contemplate it with delight, other than the limits set by our own weakness.

There are, of course, accidental limits on aesthetic enjoyment set by the practical business of this world. I've had to stop admiring a beautiful sky reflected in a puddle, or a maple turned crimson in the blaze of autumn, lest I be late for work. But there are also limits set by a person's own imaginative capacity. Often, I've stood in a beautiful, serene forest, with its million leaves trembling tenderly, and a brook burbling over stones beneath it, and felt its wonderful peace seep into the nooks of my soul, yet nonetheless grown bored within two minutes, let alone five. That feels like my own fault, though in a sense deeper than any choosing that I'm capable of. Maybe it's a symptom of the fallenness of human nature. But I can imagine, though only just, a being strong and good enough to enjoy, and enjoy, and enjoy, without this shameful propensity for boredom. Maybe with divine help I can become like that myself. We'll need a greater capacity for aesthetic appreciation than we have now to remain happy in eternity. It's one of the rewards of a virtuous life.

Aesthetic experiences are characteristically inarticulate. We hardly dare to try to describe them. We may say they are "indescribable" or that they leave us "speechless." If we do speak, almost everything is lost in the description. Poetry is the great exception, though in some ways it's the exception that proves the rule. Poets, among other functions but perhaps most importantly, specialize in delighting others by articulating to some degree, though very inadequately, as any wise poet will be the first to insist,

the inherent goodness of the world as we experience it, which others feel but cannot even begin to express. Poets perform this magic by using words in odd ways, calling things what they are not through metaphor and simile, being sensitive to words' connotations and homophonies to create suggestions and associations, and so forth, in order to enhance the power and subtlety of language. Poetry, at its best, is a school for the capacity for wonder.

I read somewhere, long ago, that an important difference between the thought-ways of the modern Western mind and the thought-ways of the ancient Greeks is revealed if you compare the answers that would be given to the question: "Which is more like science, history or poetry?" Modern Westerners would say history, because at least history is true, whereas poetry is just made up. The ancient Greeks, this writer claimed, would have said that poetry is more like science, because... well, at the time I didn't understand the reason, and then I forgot it. But perhaps I begin to see. I think the ancient Greeks distinguished, first of all, the transient from the ideal. History deals with mere events, flux, transience. Poetry and science seek to penetrate the natures of things. Poetry and science are, in different ways, *timeless*. They're not mere chroniclers but seek to shed light on a permanent or eternal reality, getting at essential natures of things that don't change over time, while abstracting from what is accidental and fluctuating.

These claims about poetry may seem odd, since at one level, poetry seems to be nothing but words arranged in rhythmic and/or rhyming patterns. Yet the connotations of the word "poetic" reveal that there's more to poetry than that. We sometimes call prose "poetic," because it is beautifully evocative and has that quality of timelessness that we associate with poetry. I've never heard it done, but we'd easily understand it if someone called a poem "prosaic." And yet the association of poetry with rhythm and rhyme is strong and not accidental or arbitrary. I think there are two reasons for it, both important, and both illuminating about poetry's purpose.

The first reason is mnemonic. Rhythm and rhyme are an aid to memory. This is more important than it sounds. Rhythm and rhyme serve as a kind of certificate of authenticity. It's easy for a story to be told and retold, each time a little differently, until the original details are lost under a sediment of improvisation and forgetfulness. That is much less likely to happen to a

poem, because if you change the words, you break the rhyme scheme and/or the meter. Rhythm and rhyme are like the ridges in old gold coins that prevented unscrupulous people from shaving off a little of the valuable metal and then spending the coin as if it were whole. The ridges prevented such tampering by making it easily detectable. With a poem, we're probably getting the exact words, laboriously crafted, words by which the sensitive soul of the poet described a sublime moment. Poets have reason to prevent their words from being changed, because they had to be chosen so carefully to accomplish the difficult feat of translating the most private experience into public language.

By their mnemonic power, rhythm and rhyme help poems to be bearers of mystery. You typically remember a prose text by understanding it and remembering its sense. But because you remember a poem as much by means of rhyme and rhythm as by understanding it, the poem can charm and puzzle, but stick in your memory, and then travel with you, still mysterious, still waiting to be understood, until the right moments come along for you to grasp different aspects of its sense. And so the poet can be more ambitious in filling his text with wisdom and wonder.

But I think rhythm and rhyme have an even more important function. They evoke and pay fitting homage to nature *because nature is a poem*. It has rhythm. It rhymes.

Sunrise and sunset. Seed-time and harvest. Generation follows generation, passing from childhood through old age. *The world is full of rhythm.*

Each sunrise echoes, and yet is a little bit different from, the last. Each apple tree, each calf, each child reminds us of its parents, and yet is not the same. The world doesn't merely repeat itself, but repeats itself with a difference. *The world rhymes*.

And as a scheme of rhythm and rhyme knits together and unites the varied words of a poem, so intricate patterns knit together and unite the splendid variety of nature, making it possible for it to be fascinatingly diverse in the extreme, and yet coherent. For two great aspects of the goodness of the world are *variety* and *pattern*. Nature is inexhaustible in the abundance of things it offers for our wonder, yet it still has a kind of unity. There are many, many kinds of mammals and birds, of trees and mushrooms, of landscapes and rocks, even of weather, but the same laws of physics apply to them all, and they are constantly exchanging the same

substances. The water molecules and carbon around that are in you have passed through a thousand bodies. You'll never see all the places that Earth has to offer, but part of your substance has probably been there, or will go there, someday, after you die. Your substance has never visited the most distant stars, nor probably ever will, yet you can see their light. We're all bound together in a great chain of being, as the words of a poem are bound together.

Nature is a sea of wonderful change, and there is great variety over time even if you stay in just one place. It will offer a tremendous variety of beauties over the course of a year, as the cycles of nature wash over it. It might change, for example, from the snow of winter to the flowers of spring to the green leaves of summer to the gold and red leaves and ripe fruits of fall. It will be dimmed by clouds one day, windswept the next, then sunny and peaceful, then wet with rain. It will be pink with sunrise, then bright with morning, then hot and lazy with afternoon, then pink again with sunset, cool and refreshing with evening, and finally solemn below, glittering above through the long hours of a starry night. And yet through all this variety and change, there are patterns, threads of constancy. Always gravity tugs down and lets us stand firm on the ground. Day after day, the sun rises. We exploit these patterns for our own economic arrangements, planning ahead so as to keep safe and warm and secure food and shelter. We store up some goods that are now abundant but will be scarce. We enjoy the flowers of springtime or outdoor swimming in summer the more intensely because they'll soon be gone. There is so much pattern in nature that we might almost think it should have no room for surprising variety, and so much variety in nature that we might almost think it should be impossible to fit it all into patterns. Yet somehow the world manages to be both marvelously varied and pervasively patterned. The rhythm of the seasons, and the days, and the life cycles of animals and plants, goes on and on, and each sunrise, each springtime, each hatching of young, rhymes with the last. That nature is like a poem is probably one reason why we enjoy hearing words arranged in rhythm and rhyme.

We must be on our guard here, lest scientific materialist habits of thought creep in and steal away the insights we are gaining by contemplating nature. Because beauty isn't reducible to atoms and forces and energy, modern society tends to be quietly dismissive of it, regarding aesthetic experience as merely subjective, personal, fanciful, arbitrary.

But beware! Remember the terrible lesson of the grue problem! We stand upon the edge of an abyss of skeptical madness, where all our scientific reasoning would lose its epistemic warrant and fall into the void because of the inescapable arbitrariness of the concepts in which it deals. We can only keep our balance on that perilous precipice by insisting on the reality of ideas, on the real existence of the concepts by which we interpret the world and discern patterns in it. Earlier, I used the word "intuition" to name the faculty by which we know that green *really is* a proper concept, and grue is not. But I might almost have named it "aesthetic sensibility." Certainly it seems to be akin. There is an aesthetic appeal to an orderly world in which grass is green, and something repugnant about a crazy world in which grass is grue. Might not our faculty of discerning and delighting in beauty involve the perception of ideal forms behind the transient things of the world, and therefore of the proper concepts by which the world can be legitimately interpreted? We cannot see past the curtain of the amnesia of childhood to be sure, but doesn't it seem likely that our minds were populated with the concepts that reason so sorely needs precisely in moments of aesthetic delight? Frog! Cloud! Rock! Kitten! So shouts the child, with an ardor and conviction that the most eloquent poets might envy, and sometimes have. Doesn't it seem likely that the child who gleefully shouts "Frog!" has just glimpsed, once and for all, the eternal form of frogness? We saw, we thrilled with wonder, and we knew, our knowledge being the residuum of intuitive certainty that aesthetic wonder left behind. Inductive reasoning comes in afterwards to apply the concepts seeded by aesthetic experience for the scientific interpretation of the world. Maybe poetry is more fundamental than science. We'd better not risk it by doubting away its magic.

Isn't there a kinship between the states of mind of a poet who sees how a verse ought to flow, and of a scientist who sees how a natural law ought to operate? We like order, and we believe in order, and the preference and the belief are not unrelated. Wishful thinking is not a mere fallacy. We can translate our wishes into testable hypotheses, and learn things we would never have known, if we hadn't started with the wish. Our feeling that something is fitting, and reasonable, and makes sense, can be valid evidence. That's how we know grass is green, not grue, and that oranges are round, not squound. It's an indispensable ingredient in a thousand acts of

inductive reasoning. The scientific study of nature is connected with discernment of nature's peculiar goodness, brimful of order and variety.

And if nature is a poem, it stands to reason that there should be a Poet behind it. If nature is pervaded by beautiful design, we have reason to conclude that some great Artist designed it. From natural order to divine Creator seems like an easy step. Has mankind in general really found this to be such an easy deduction? Yes, in a way. The vast majority of mankind has believed in some kind of divinity or deity, and worshipped some sort of God or gods. But *what* sort has varied so much as to cast doubt on whether there was any common intellectual origin. The Christian God, omnipotent, omniscient and all-wise, eternal and "outside time," everywhere present yet invisible, fully good, differs greatly from the beautiful but petty, passionate, quarrelsome, deceivable gods of Olympus. And yet it has often been guessed, from many clues, that all these gods sprang from the perception of a universal fatherhood behind the world, so that many of the "gods" were, in the beginning, simply God under different names, before they fell from that distinction by becoming the subject of lots of irresponsible storytelling, and being pooled with other gods into pantheons. For a deity to have made and to preside over and sustain the beautiful order in the world completes the picture nicely, and most human beings who have ever lived seem to have believed in some version of that.

It's just when we start to appreciate nature as a kind of sublime poem that evil is most shocking. Even small evils, discovered amidst a sublime moment, invade and spoil. An animal just killed spoils the peace of a verdant spring meadow. A bit of hateful graffiti steals the charm from a splendid old building. But far greater evils stalk this sad world of ours. Genocide. Slavery. Rape. Lying propaganda that brainwashes whole populations. In the 20th century, totalitarian regimes killed tens of millions of people. And today, almost a billion people in this world live in desperate poverty, surviving somehow on less than $1 per day. Or not surviving. There is child mortality. There are countries where life expectancies are under 40 years. And nature is full of predation and parasitism.

The problem of evil is an old and famous objection to Christian theism. If God is all-good and all-powerful, why does He let evil continue to exist? A partial answer is that God made people free, and freedom, though good, inevitably involves the possibility of choosing evil. But why are there natural evils, like floods and earthquakes? They aren't the result of anyone's

bad choices. And while floods and earthquakes are rare, there is a kind of natural evil that is extremely pervasive, which can be described in terms of what economists call "scarcity" or what physicists call "the Second Law of Thermodynamics." We have endless needs and wants but limited means to achieve them. Often human evil arises from natural evil. The hungry man becomes a robber to get food. More generally, people fight and oppress each other, as often as not, to get scarce resources. Why should the world be made such that resources are scarce? *That's* not our fault, is it?

And why are we not only capable of evil, but terribly prone to it? We continually fall into wrongdoing without exactly meaning to, hardly knowing where we crossed a threshold of choice into committing a sin. We feel all sorts of sinful desires. Good people may find the old sinful temptation keeps recurring after they have successfully resisted it a thousand times. Even bad people probably feel ten sinful desires for every one they act on. And children begin quarreling before they have learned to talk. Christianity has long called this original sin, but we're not satisfied with a diagnosis. What's the cure?

And the worst of it is that evil seems fated to win in the end. If moral evil doesn't corrupt us, then natural evil will kill us. We will all die in the end. And not only us. As I explained in chapter 7, the whole universe is expanding, moving slowly outwards into the cold and dark. The stars are burning through their fuel supply. In the end an eternal silence will fall on the graveyard of the stars, and from the heat death of the universe, science knows of no way back to light and life.

The heat death of the universe is at least remote, but there is another kind of sadness that is with us every moment. Men pass away eventually, but moments are continually passing away. The cherry blooms with dazzling splendor for a day, a week, maybe a little more, but a hard rain comes and it is spent. A baby smiles for the first time, lighting up the world, but the moment passes, never to return. We can remember. Or at least, we can try. But memory is imperfect. A loving parent of a happy child is more blessed than many, yet who can retain in memory even the hundredth part of the joys and delights that the child's antics and delights and discoveries and affections brought? *Time*, the great thief, is at work even as we live, forever interrupting joy, often with trouble, but even if not that, then with the soft death of forgetfulness.

Does it make sense even to wish it were otherwise? A world without time is hard to imagine. And yet we are acquainted with things immune to time, namely, *numbers* and *ideas*. 2+2=4 eternally and forever, never mind your death or mine, never mind the heat death of the universe. Why can't we be like that? Why can't the precious moments and the people we love be like that? Poetry is again the exception that proves the rule, for it does seem to have some power to make the transient eternal, to "immortalize," as we sometimes say, a place or person or moment. But why can the moments live on only in a poem, and not *really*?

What makes the problem even more difficult is that we seem to be dependent on what we deplore. The human race loves *stories*. Around the world, before there were smartphones, people bought TVs when they scarcely had sufficient food and shelter, because TV delivers *stories*, for which we all have an insatiable appetite. But a story, unlike a poem, must have a complication, an element of evil. Some stories—*The Wind in the Willows* comes to mind—manage to make a lot of story with a little evil, and perhaps we should seek to cultivate more of a taste for stories like that. But there seems to be a law of escalation by which we seek out stories with greater and greater evil in them because they are more dramatic. The result is that most people in history, and certainly most people in contemporary America, encounter far more evil voluntarily in stories than involuntarily in life. Doubtless, our love of stories is in part a kind of training. We love to encounter evil in stories so that we may be better prepared to encounter it in life. But often the appetite for stories seems to become unmoored from any practical use. Can we really wish there were no evil in the world, if the price to pay is that there should be no stories, either? Perhaps we should, but it's not clear that we can. Yet how can we ever be innocent if, at some level, we will the evil that we don't do, so that the world might be interesting?

And so the thoughts of men converge upon a terrible paradox. On the one hand, there is the great truth of Creation: a good, beautiful, wisely ordered, highly varied world, full of things to admire and enjoy, reflecting in time the eternal forms in a thousand variations, and all united in a rhythm of days and seasons and life cycles, and the rhyme scheme of things recurring but a little differently. The world is a splendid poem whose beauties we could never exhaust. On the other hand, there is the great truth of the Fall: that all things are vitiated, impregnated to a greater or lesser

degree with evil, sometimes resisting evil but often a little in love with it, transient, decaying, sinking inexorably towards death and ruin, and often tormenting each other in their efforts to survive a little longer. The wiser we are, the more this terrible lesson meets us everywhere we turn. We may be able to forget it sometimes, but it will come back soon enough. It is the world. And I think all the wisest people in history have seen it, more or less. It is present in the book of Job, of Homer and Plato, in the sadness of Buddha and Omar Khayyam. We might call it *pre-Christianity*, the highest perspective that the human mind can achieve without the help of Christian revelation.

But all this is very strange!

Isn't it strange for me to call it strange, when it is the only world I have ever known? What right do I have to call it strange? Strange, by comparison with what?

Wrong question. We've already seen that all our ability to distinguish the plausible from the strange depends not on mere experience but on the authority of intuition. Experience alone can't teach us that grass is green rather than grue. Intuition must help. On the same authority of intuition, I find it strange that the world is described by these juxtaposed truths of Creation and Fall. Why should such a beautiful and wisely ordered world inexorably fall apart? Why would the Creator who seems to have been at the back of the Big Bang, and who must have infused the world with so much order at the beginning, let it all run down and sink into ruin? It doesn't seem to make sense.

We can hardly imagine what a rescue would look like, so enmeshed are we in this sad, fallen world. Much of its sadness flows directly from the ways that we abuse our freedom. But we can't wish away our freedom, and we can't seem to stop abusing it. And the glories of nature are interwoven with its cruelty. We cannot but admire the ferocity of the lion, yet we pity its prey. What can we wish for in such a case? We wouldn't know how to rewrite the laws of physics to omit the Second Law of Thermodynamics.

Yet even if we can't imagine a rescue, we might hope that the great Poet of nature, the wise Artist who must have framed all this wisely ordered world and brought it into being, might. We behold His might and skill through the things He has made. If anyone can save the world from the curse of death, it would be this original Creator. And so, after fully appreciating the glory of Creation and the tragedy of the Fall, there is one

more step that reason can take. It can reject the world we seem to see as too strange, and look for some clue that would make it all make sense. It can conceive a hope for some inconceivable redemption of this wonderful, doomed world of ours. And then it can watch and wait for it knows not what, but for some sign that the Maker of the world is on the move, making His great rescue.

Such is the riddle of the world. And now let me give you a quick sketch of Christianity's answer to it.

God made a good world, and part of that creative epic involved was giving freedom to some of His creatures, notably to angels and to human beings, so that they too could choose and create. But first some of the angels, and then the first human beings, fell into sin, that is, into pride and rebellion and enmity to God. And so evil entered the world, and spread, until it infected everything that we see. Human nature became so infected with it that no one manages to live without sin. That's how the world we know, with its terrible juxtaposition of good and evil, came about, and some of it, some moments certainly, and probably some people, will never recover, and the only cure is for them to be cut off and forgotten. But for others, that is for all who will accept it, God has opened up a way back to eternal life.

It begins through a man, Jesus, who was also God, or—the mystery of the Trinity must at least be mentioned here to get the story right—the Son of God. Since we could no longer love human lives as they ought to be lived, God became a human being and did it for us. He came among us as a teacher and guide, a leader and king, a healer and comforter, a judge and a prophet, a friend and a brother. He was loved by many, especially by the humble, but also hated by many, especially the proud, to whom He appeared as an exposer and a rival. Jesus had the power of working miracles, which He used during His ministry to cure many of the superficial and transient evils of this world: hunger, sickness, perilous weather, even death. Of course, these sorts of miracles didn't get to the heart of the matter. Stomachs filled with miraculous bread were soon hungry again. Bodies miraculously healed or raised from the dead later sickened and died. But the miracles not only brought great joy in the moment, but served as signs of who Jesus was and what He intended to do.

This world being what it is, a place where good is everywhere so fragile and vulnerable, and evil so pervasive, festering, subtle, jealous and

implacable, the inevitable consequence was that Jesus was killed. He was killed especially by two things were among the best human history had to offer, Roman statecraft and Jewish monotheism, thrown into a strange conspiracy of enemies by the provocation of Jesus's goodness. But this death completed and crowned the perfect goodness of Jesus's life, with all its self-sacrificing courage, and all its loving meekness and gentle humility. He worked no miracle to save Himself from this death. But death could not hold Him. After three days, He rose again, and things were so arranged that by doing so, He injected a new element into the midst of history, utterly alien to the fatal sadness of the fallen world, with its inexorable propensity for corruption and mortality. He had only a kind of local fame, and left little if any mark in secular records. He wrote nothing. But His followers, so fearful and confused during His life as the Gospels tell, became bold and fearless, eloquent and persuasive, like trumpets, bearing the message far and wide, indifferent to danger and violence and scorn. And among all that growing band of disciples, a conviction burned that the Resurrection of Jesus was not mere transient relief, as so many other miracles had been, but the dawn of a new world.

The Resurrected Jesus didn't stay long among us in the body. Instead of rotting in the earth after the crucifixion, He stayed on earth for a few weeks, appearing mostly to His apostles but to some others amounting to a few hundred, and then ascended into Heaven, still in the body, first to bring human nature into that blessed realm. Meanwhile on Earth, He remained present in another sense, for the Church lingered as His mystical body, and by a regularly occurring miracle instituted by Christ at the Last Supper, bread and wine are changed into the body and blood of Christ, and nourish His followers. His Church remains on Earth, strangely intermingled with it and yet separate, not touched in its inmost heart by the corruption of the world, and again and again rising above each passing age, outliving fashions and classes and nations and empires and schools of thought, immortal in the midst of a universal mortality that sweeps away everything except the Church and what it chooses to sacralize and take with it. But the prophets including and culminating in Jesus have told, figuratively or materially or both, how the world's redemption will be completed, in a terrifying transformation that destroys much, but that preserves, in the end, all that is worth preserving, all that is fit to dwell eternally in the presence of God, and then death will be no more.

From a scientific materialist perspective, all this seems very unlikely. It's not exactly empirically disprovable, but it's gratuitous and absurd and fanciful. But the wise through the ages have seen in their various ways, and we too can see upon reflection if we get the scientific materialist fallacy out of the way, something different. We see a world wisely ordered and beautiful and wonderful, evidently the work of a great and good Creator, which yet has somehow fallen into corruption and decay leading down inexorably into an abyss of meaninglessness and ruin. And this is like saying the world is grue: inexplicable, inconsistent, absurd. And so anything that promises to be an answer to the riddle of the world has a claim, if not to be believed at once, at least to be granted a kind of warrant of potential probability that we sometimes call "hope." Upon hearing all sorts of wonders and oddities, we have an impulse to believe, a kind of misgiving that it just might be true, because the mere commonsense world we experience is ultimately too strange to be believable. Usually such tales of wonder are refuted by evidence. But for this one tale, this proposed answer to the riddle of the world, the evidence, if we let it have its say, drives us the other way, fanning the first spark of hope into the burning convictions of faith.

Chapter 15. The Ethics of Jesus

We saw in the last chapter the riddle of the world and the Christian answer to it. Our business in the coming chapters is to understand that answer in more detail, and to look further into the evidence for it, in addition to the strong evidence for the Resurrection itself that we saw in chapter 3. Part of the Christian worldview is that all humans are sinful except Jesus Christ (and some Christians would add His mother, the Virgin Mary). This chapter focuses on the evidence for that claim, and what it contributes to the case for the Christian worldview as a whole.

I can't actually prove that Jesus of Nazareth was the only morally perfect human being in history. It takes a little leap of faith, in the end, to believe it. My argument here, if it deserves the name, will be hasty and shallow, and very inadequate to its thesis. And yet I'm rather confident of success because in most cases, I'll be pushing on an open door. Most people already admire Jesus without any help from me. They've heard good things about Him, and if they've ever cracked open a Bible and read for themselves, they've gotten an impression of a man like no other, a man limitlessly wise and perfectly courageous and full of love and forgiveness, a man in whom the tiniest yielding to normal human weaknesses and sinful

desires would be utterly out of character, a man on a mission, with purposes so lofty as to be almost inscrutable to His contemporaries and to the uninstructed, whose every action is motivated by that mission without the slightest taint of self-interest. Meanwhile, we say casually of others that "No one's perfect," meaning it to be applicable to everyone except Jesus. With Him, hardly anyone is audacious enough to find fault. I can't survey the history of human conduct to prove Jesus's unique moral perfection very thoroughly in a single chapter, and I should hardly expect to convince anyone who doesn't already half agree. But a lot of people do.

The teaching that Jesus alone was perfect is traditional, going back to Jesus himself, but I'm going to make it a little more ambitious. It's not only compared to all real, historical characters, but to all fictional characters as well, that Jesus stands out as uniquely morally perfect. This is important for apologetics, because it goes far towards proving that the Gospels were not forgeries or fictions. How would the evangelists, who don't seem to have been especially well educated or had great literary talent, have been able to

invent a morally perfect character, when none of the greatest writers of history has ever succeeded in doing so?

It's convenient to stretch the thesis this way, because it spares us of the need to distinguish historical from fictional characters, which is often difficult. Some legendary figures may or may not have actually lived, while some purportedly historical accounts are quite fictionalized, and in other cases nominally fictional characters are inspired by real people. With my expansion of the thesis to include fictional characters, we don't need to sort that out. We can use historical, fictional, and legendary characters indifferently for comparison and illustration.

To make our moral audit of mankind manageable, I'll divide historic mankind into, and consider in turn, four categories of people, namely (a) primitive people from illiterate cultures, (b) the common people of known civilizations, (c) people of socially distinguished classes though not individually famous, and (d) famous people whose character we can to some extent discern from what history remembers about their lives.

In spite of a persistent myth, in the modern West, of the "noble savage," realistic anthropology reveals that primitive people are savage as often as they are noble. Much of life among primitive people enacts a grim sociobiological script, and consists of endemic fighting among men for control of resources and especially of women. Steven Pinker's *The Better Angels of Our Nature: Why Violence Has Declined* provides one summary of the evidence. Murder and rape are far more common, to the point of normalcy, among primitive tribes and bands. Civilized people sometimes indulge in admiring barbarians from a safe distance, as did Rousseau, Diderot, and some other thinkers of the 18th-century Enlightenment. But closer contact, such as 19th-century Europeans had thanks to the steamship and colonialism, tends to convince them of the moral superiority of their own civilization to the "heathens" and "savages" of the wild places of the world. The attitude of contempt and horror expressed in words like "barbarian" or "savage" isn't mere chauvinistic bias, but the residue of the real victimhood of civilized peoples at the hands of primitive peoples when the latter have gained the upper hand. Thus the Chinese, Arabs, and Persians suffered pillage and massacre at the hands of the Mongols, and the late Romans at the hands of the Germans and Huns.

It shouldn't really be surprising that murder, rape, and other kinds of violence are common among primitive peoples, because they are rooted in

human instincts, honed by evolution to maximize the market share of the selfish genes. Civilization has powerful customs, institutions, and socialization processes to tame and override the violent proclivities of fallen human nature. Without that, humans are more natural in some good ways but also in some very bad ways. Rape is natural, in the sense that men's selfish genes and instincts often urge them to do it. So is murder of sexual rivals, or murder to defend one's honor and superior rank and to frighten others into submission. So is domination of the weak. Civilization disciplines these evil instincts. Without it, they often run amok. Short of murder, there is hatred, one tribe or band against another. Short of rape, there is forced marriage and polygamy. There's plenty of virtue among pre-literate people, and we'll keep our ears open for rumors of exceptional individuals in pre-literate cultures who attained great virtue. But it doesn't seem, *prima facie*, like a promising place to look for moral perfection.

So let's move on to the second category, the common people of civilized societies. What are their moral characteristics? Like the barbarians, the commoners have had their admirers. The novelist Leo Tolstoy, writing in the agrarian, highly class-stratified society of 19th-century Russia, sometimes idealized the peasantry, for example in the figure of peasant conscript Platon Kareteyev, who, in the novel *War and Peace*, becomes the model of enlightenment for the nobleman and spiritual seeker Pierre Bezukhov, when they are fellow prisoners of Napoleon's army during its winter retreat through Russia. Platon's saintliness consists in yielding without resentment or bitterness in all circumstances. In western Europe, where industrialization was changing the nature of the lower classes, Karl Marx and his many followers made a kind of moral ideal out of the multitudes of factory workers in industrial cities, which they called the proletariat, and which they hoped would seize power in a revolution and institute a utopia. Of course, that was all wishful thinking, for which mankind has paid a terrible price. But Tolstoy was not a peasant and Marx was not a factory worker, and real peasants and factory workers and other commoners have always known that moral perfection was not characteristic of their kind of people. They have their foibles.

Meanwhile, I have to find fault with more or less all the common people of civilized societies for being complicit in a great deal of societal evil. They saw terrible things, and let themselves be powerless to resist them.

I used to think it was rather unfair of God that, in the Book of Exodus, the plagues God sends to punish Phaoroh for his cruelty and injustice to the Hebrews don't affect only Phaoroh, but the whole Egyptian people. Later, I realized why this was just. Phaoroh couldn't have oppressed the Hebrews so cruelly without the help of the Egyptian people. Where would he get the force? The Egyptian people were to blame for the oppression of the Hebrews because they either helped Pharaoh, or at least failed to overthrow him when they saw it. And so it is with the subjects of every tyrant and oppressor in history, down to the hideous Nazi and Soviet tyrannies of the 20th century. The common people are complicit. Let us not condemn, for we might have made the same moral compromises in the same terrible circumstances. But of course, while loving the sinners, we must hate the sin. Our natural disgust at cowed subjects silently obeying wicked rulers is wise and proper. And such cowed subjects comprise the vast majority of pre-Christian civilized mankind. We discussed in chapter 11 how the Golden Rule would demand that we rise above the social sin, the approval and complicity in socially accepted evil, that has been endemic to each age of history.

The evils that the common people are guilty of condoning and abetting vary much from place to place, though they are generally much less bad where Christianity holds sway. *Suttee*, the forced suicide of widows, was distinctive to India, and the murder of firstborn children to Carthage, while human sacrifice on a larger scale was characteristic of the pre-Columbian Aztec civilization of Mexico. We hear in the epic of Gilgamesh that Sumerian kings practiced *prima nocte*, where the ruler rather than the husband got to sleep with every bride on her wedding night. Some cultures practiced cannibalism. Prostitution was widespread and normal in most pre-Christian societies, and persisted long into Christian times, becoming rare to the point of irrelevance only in the past couple of generations in a few countries. Prostitutes are generally despised and treated almost as subhuman, their lives lacking any socially recognized purpose except the satisfaction of men's lusts. Cruelty to animals has been widespread in history. The Greeks condoned the sexual exploitation of young boys by older men. The Romans entertained the masses with spectacles of carnage in colosseums, where gladiators were forced to kill one another or were devoured by wild beasts. Above all, two evils have been essentially universal: slavery, and the glorification of aggressive war.

No advanced society before Christianity was without slavery, which was common among primitive peoples as well. Many slaves led miserable lives. It was usually routine for female slaves to be sexually exploited, and for male slaves to be worked to death. And while just war is possible, most of history's wars seem to have sprung from mere lust for power and self-aggrandizement by rulers. If the common people had resolutely and unanimously opposed and resisted these practices, they could surely have stopped them at any time by mere strength of numbers. Instead, they seem usually or always to have condoned and abetted war and slavery, cheering for the conquerors and disdaining the slaves.

Commoners typically look up to classes within their own societies who embody different kinds of excellence, including, depending on the time and place, some of the following: professors and teachers, with their knowledge; priests and pastors, with their piety; warriors and nobles, with their martial valor; entrepreneurs and self-made millionaires, with their hard work, productivity, and effectiveness; poets and writers and artists, with their genius; scientists and technologists and engineers, with genius of a different kind; and maybe rebels and revolutionaries, risking all for a better world. Most societies have had some kind of social mobility, and commoners of exceptional virtue can rise to fame, social distinction, or both. And even where social distinction is partly or wholly hereditary, the assumption, usually at least somewhat realistic, is that some kind of virtue is being passed down by nature and nurture from one generation to the next in the elite social class. It has often been believed that noble birth and education confer moral advantages. So let's turn to these elite classes and to see whether we find moral perfection among them.

For the moment, I'll skip over medieval knights and priests, who are heavily shaped by Christian ideals, and take a look at the *Iliad*, the great Greek epic which was to the Greeks a little like what the Bible became for Christians. It's a thriller, whose intricate and suspenseful storyline provides a framework for many eloquent speeches and a vast amount of battlefield courage and bloodshed, as well as many vivid glimpses of the gods of Olympus. The Greeks admired the heroes of the *Iliad*, and in one sense with good reason, for they certainly showed great courage in plunging again and again into bloody battles where they were likely to die.

And yet what scoundrels they were! Unlike King Arthur's knights, who never rape women, the Greek heroes took rape for granted, as the first plot

twist in *The Iliad* makes very clear. King Agamemnon, a kind of first-among-equals of the Greek kings who are waging war on Troy, has taken to his bed a girl, Chryseis, whom he picked up on the warpath somewhere. She's the daughter of a priest of Apollo. Her father comes begging to get her back. Agamemnon says no: she will be "forced to share his bed" indefinitely. Then the priest prays to Apollo for help, and that god sends a plague that begins to destroy the Greek armies. The Greek hero Achilles, part of the army under the loose command of Agamemnon, demands that Agamemnon give the girl back to the priest, lest the armies be ruined by Apollo's plague, Agamemnon angrily gives way, but vengefully demands that Achilles yield, in place of Chryseis, *his* sexual prize, Briseis. Achilles protests that Briseis was fairly allocated to him by the army as spoils of war! Clearly the whole army is implicated in this system of rape.

One hopes that most of the pagan warriors of Greco-Roman civilization were less cavalier about rape than Achilles and Agamemnon. But it's not clear whence they could have derived any better principles. Again, the default attitude towards the epic heroes was one of admiration, not condemnation. And the enslavement of vanquished opponents in war, and the sexual exploitation of female slaves, seem to have persisted throughout pagan times, and remained to be confronted and condemned by Christian divines like St. John Chrysostom. Certain virtues came with the territory of being a pagan warrior, starting with courage. But they fought for mostly unjust causes, and often abused their victories. Warriors had more freedom of action than the common people, but they rarely if ever used it to make society more just or merciful.

Priests are another class that goes back to the dawn of history. They make their livings as guardians of, spokesmen for, and mediators with things beyond mundane reality. They deal in rites and secrets, claiming special knowledge and special divine protection. As such, they have often held even kings and emperors in awe, and could speak truth to power in ways no one else would have dared, like the priest of Apollo who demanded his daughter back from King Agamemnon.

But how often, one wonders, did pagan priests *believe* in the gods and mysteries they made their livings by? Pagan myths were far less evidence-based than Christianity. On the other hand, there is a charm, a kind of beautiful whimsy about old pagan mythology, which may gain a kind of plausibility by echoing a magic charm in nature. That's no excuse for

worshiping pagan gods, whom the myths represent as very lustful, deceitful, short-tempered and unjust. In the *Iliad*, the gods are more beautiful than humans, and happier in that they are immortal, but they are just as angry and quarrelsome, and they are indifferent to the human suffering which they are greatly exacerbating by taking opposite sides in the Trojan War. The chief reason these gods were worshiped was not that they were admired but simply because they were thought to have power. Priests were the mediators of an exchange of sacrifice for divine favor. Their role as intermediaries with the gods sometimes gave them special immunities and freedoms, as when the priest of Apollo defied King Agamemnon. But they weren't really in the business of teaching ethics, and they hardly could have been, when the gods they worshiped were so unethical.

If there had always been a certain admiration of warriors and a certain awe of priests, another class has never been much admired before modern times, namely, merchants and bankers. They are not admired for an obvious reason, namely, that it's characteristic of them to serve nothing higher than themselves but to act only from self-interest. Moreover, it's very characteristic of merchants and bankers to be rich, possessing a superfluity of money, goods, or both. And as there has always been so much poverty in the world, the rich always stand condemned by their failure to share.

Christianity has done much to transform the perennial, necessary classes of society, reinforcing their characteristic virtues while overcoming their characteristic vices. Often it has rendered warriors merciful and merchants and bankers charitable, while giving commoners integrity, independence, and the courage to speak truth to power. Its priesthood teaches and often practices a high standard of ethical conduct. But Christianity has also clarified the sinfulness of all, condemning the past conduct of cruel warriors and greedy bankers and the priests of corrupt gods, and teaching Christian warriors and merchants and commoners, even as they perform their social roles in much more ethical ways, to be much more conscious of how they still sin and fall short.

It's time to move on to the famous people of history. They can serve on the one hand as a kind of representative sample of historic mankind, for they come from many ages, classes and cultures, and differ much in their temperaments, circumstances and adventures. At the same time, they represent a kind of cream of the crop, for it is often some sort of excellence that makes people famous. Of these alone, we know their stories well

enough to make real moral assessments. If we don't find any exemplars of perfect virtue among them, it's likely that there were none.

So what do we find? What are the moral characteristics of the famous people of history? There were statesmen like Pericles, Demosthenes, Cicero, George Washington, William Pitt, Winston Churchill, and Vladimir Lenin. There were warriors and generals like Alexander the Great, Hannibal, Julius Caesar, Napoleon, and Dwight D. Eisenhower. There were lawyers and lawgivers like Moses, Lycurgus, Solon, Blackstone, and James Madison. There were philosophers and intellectuals like Socrates, Plato, Aristotle, Archimedes, Thomas Aquinas, Rene Descartes, Isaac Newton, John Locke, J.S. Mill, and Milton Friedman. And they all had their faults.

To cite some examples at random: Locke invested in the slave trade. Karl Marx seduced the family maid and refused to acknowledge his illegitimate son. Eisenhower presided over an America stained with racial segregation. Washington and Madison were slaveowners. Julius Caesar brutalized Gaul, overthrew the Roman Republic, and had an affair with the teenage Cleopatra. Alexander the Great dedicated his life to aggressive wars, and organized the forced marriage of thousands of Persian women to his soldiers. Churchill slandered his domestic political opponents as fascists to try to cling to power in 1944. Lycurgus developed a highly militarized and communist regime in order to maintain the dominance of Sparta over enslaved helots. Solon was an imperialist warmonger, instituted public brothels, and left Athens after making his laws so that it fell under a tyrant. Cicero killed Catiline without due process of law, was a wealthy slaveowner, and in middle age married an 11-year-old girl. Descartes had a French mistress whom he never married. Aristotle condoned aggressive war and slavery. Plato let himself be recruited as an advisor to a vain and hedonistic tyrant, Dionysius II of Syracuse, and got embroiled in a sordid civil war. JS Mill supported racist imperialism and had a love affair with a married woman. Napoleon ordered the murder of the duc d'Enghien, and also fled from his disintegrating army as it retreated from Russia in 1812. And so on, and so forth. If you don't know these stories, you can look them up, and many more. I don't particularly recommend it. It's depressing. And as no one seems even to claim moral perfection for anyone but Jesus, I'm not refuting anyone in particular. But there's something cumulatively impressive about all this sordid sin among the great figures of history.

Fictional people should get their turn too. In *Pride and Prejudice*, Mr. Darcy was quite rude to Lizzie Bennet at the first dance; she in turn judged both him and Mr. Wickham much too quickly and quite wrongly at first. In *War and Peace*, Pierre Bezukhov let himself be conned into marrying a shallow and dishonorable woman, Prince Andrei was proudly bored with the love of his good wife until it was too late, and Natasha Rostov consented to an elopement with a rascal, which was fortunately prevented. In *Les Miserables*, Jean Valjean stole from the good priest who alone aided him in dire need. In *Mansfield Park*, Fanny Price concealed what she knew of the character of Henry Crawford, leading to the ruin of her cousin at his hands. In *The Brothers Karamazov*, Father Zosima, in youth, provoked a young husband to a needless duel out of jealousy for his wife, and Alyosha rebelled against the monastery rules and sought to plunge into degradation when the body of one he had loved as a saint didn't immediately show signs of miraculous preservation. In *The Lord of the Rings*, Frodo falters at a critical moment—I'll say no more or lest I spoil the story for those who haven't read it—while Gandalf has to give the dangerous mission of destroying the ring to Frodo, because he can't trust himself to resist its corrupting power. This is a small sample, but I'm picking the most admired characters from a few of the most admired works.

And we can give a turn, too, to legendary and biblical characters, in whom some believe while others don't. King Arthur adulterously slept with his half-sister Morgause, queen of Orkney, and begot Mordred, his nemesis. Cuchulain the Irish hero was a fierce fighter who killed many, including his friend Ferdiad and his son Connla. King David slept with Bathsheba, the wife of his champion soldier Uriah the Hittite, then arranged for the latter to die in battle so he could marry her. Job complained and cursed with extreme bitterness in his misfortunes. Abraham twice (!) lied that his wife Sarah was his sister so that a ruler through whose lands they were passing would not kill him in order to marry her. I haven't been able to find fault with Robin Hood or Sir Galahad, taken in their own terms, but of course, Robin Hood lied and stole, even if he did it with lofty motives and by rather scrupulous means, and Sir Galahad, unlike Jesus, bore a sword and fought. Both figures are in any case clearly more legendary than real, and the fact that they could even be imagined reflects the influence on the medieval European imagination of the Christian saints.

In the lives of many Christian saints, no sins are remembered. Christian churches that have the custom of "canonizing" or officially recognizing selected saints (for it's understood that we don't know the names of *all* saints, that is, of all saved souls) don't claim that the saints were actually sinless, but rather that their sins are forgiven, and sometimes their sins are forgotten by history as well. But they had sins. The exception that proves the rule here is that the Catholics and Orthodox think Mary, the mother of Jesus, led a sinless life. But it was a life extremely sheltered from temptation, for she was dedicated to the temple at the age of three, then later married off to a very good man, Saint Joseph, and her one son was Jesus. In complete contrast, Jesus lived a life in the public square, which must have been full of both the most intense and the subtlest temptations.

In the West, the character other than Jesus who has been most admired as a moral exemplar is probably Socrates, whom we've met many times before in this book. Multiple schools of ancient philosophy took him as their role model. He stands out for his intense honesty, intellectual humility, and relentless pursuit of truth. Yet he doesn't really come close to Jesus. He fought in Athens' rather unjust wars. He showed no particular concern for the poor and needy. Sexually, he was married, yet in the Symposium he describes an oddly diffident affair with the famous cad and intriguer Alcibiades. He is condescending to his accusers and the jurors at his trial. He rather heartlessly orders his wife and other women to depart before his execution because he dislikes their sentimental tears. To assess Socrates is tricky because Plato's depiction, across many dialogues in which Socrates is the main character, may not be meant as biographical. Plato is probably just using Socrates as his spokesman much of the time, putting in his mouth thoughts of Plato's own that Socrates never said. If we do assess *Plato's* Socrates as a character, many of the political views he expresses in *The Republic* are despicable. He advocates an authoritarian and militarist regime, with aggressive censorship, which indoctrinates its subjects in lying stories. It is to be hoped that the real Socrates had nothing to do with such nonsense. But other sources with something to say about Socrates are often unflattering, notably Aristophanes' comedy *The Clouds*, which represents Socrates as an irresponsible trickster who, for a game, delights to make the unjust cause seem just. It would be mere wishful thinking to assume that anything we don't like about Plato's Socrates was Plato's invention, while all the virtues of Plato's Socrates were real.

Still, it's interesting how Socrates' life foreshadowed Christ in so many ways. Like Christ, Socrates became famous as a thinker and teacher without writing anything, through disciples. Like Christ, Socrates was killed for his *goodness*, and not by a petty tyrant, but by some of the best institutions that mankind had ever devised, namely, Roman law and Jewish monotheism, and Athenian democracy, respectively. Like Christ, Socrates could have escaped execution, Christ by His miraculous power, Socrates by his wealthy disciples bribing the guards to help him escape. They didn't, because their deaths were making a point, proving key truths in the face of a wicked world. And yet the contrasts are striking too. Socrates was killed for insisting that he knew nothing, and by the way, no one else did either. Christ was killed for claiming He was God and knew all. Their deaths vividly displayed the sinfulness of man, for even some of the best societies in history could not face the provocation of such goodness as Socrates and Christ challenged them with, and killed them to put out its light. We discussed in chapter 11 how with respect to social sin, there have been some historical figures who in varying ways and degrees hold themselves aloof from it and/or denounce it. Christ and Socrates, along with a very few others such as the Hebrew prophets, avoid all complicity in the social sin of their times through the risky and lucid critical stance they take towards them.

To sum up, people disappoint. We haven't studied everyone, but the pattern becomes overwhelming. People, all people, believe in some sort of right and wrong in a muddled way, which can make sense only in light of the Golden Rule but fall short of that, but in their conduct they fall short, usually far short, even of the muddled ethics that they would advocate and expect of others, doing what even they know to be wrong. People's own moral failings are probably why no one before Jesus seems to have clearly, boldly, lucidly and consistently advocated for the Golden Rule, despite its overwhelming intuitive appeal and its seeming simplicity and obviousness. Their own sins made them unable to dare to state such a lofty moral truth. Everyone does some things that are just indefensible. And then there's Jesus.

Jesus taught and lived an ethics of astounding audacity and magnanimity. Not that it was completely new. While the Golden Rule was foreshadowed in the Old Testament law, Jesus came, as He said, not to abolish the law (of Moses) but to "fulfill" it, cutting through its

compromises to reveal the nature of moral perfection. What this means is well illustrated by the change from "love thy neighbor" to "love thy enemy." "Love thy neighbor as thyself," which Jesus calls one of the two great commandments "on [which] hang all the law and the prophets" (Matthew 22:40), was taught long before in Leviticus 19:18. But Jesus says that, whereas "you have heard that it was said, 'love thy neighbor and hate thy enemy'," He taught instead that His disciples should "love thy enemy and pray for those who persecute you" (Matthew 5:43-44). Jesus's teaching might seem to contradict the old law, or at least to go beyond it, but it is truer to say that it "fulfills" it, by answering in the most expansive and generous possible way the question that was put to Jesus by a certain lawyer: "but who is my neighbor?" (Luke 10:29) Jesus answers this question with the parable of the Good Samaritan, the point of which is that the man who acted as the neighbor of the one wounded by robbers on the side of the road, by helping him, was precisely an enemy, a Samaritan helping a Jew, when the Jews were known to hate the Samaritans. The category of neighbor was expanded so much as to include everyone, even or especially one's enemies, and so the law was fulfilled, in a way that no one could have foreseen, yet that once seen must be recognized at once as the only way to complete the ideal. And of course, Jesus loved His enemies, to the point of praying from the Cross for God to forgive them.

Similarly, where the law condemned murder, Jesus condemned unjust anger. Where the law condemned adultery, Jesus condemned lustful glances. His ethics had in the extreme a quality that we might sometimes call "idealistic" and sometimes "quixotic," wherein conscience pushes past all considerations of pride and propriety and prudence. No one had ever before dared to teach an ethics so totally generous and loving, so extreme in its mercy and meekness, but it was recognizably continuous with the ethics that they had taught, and all the compromises and half-measures that came before looked shabby in the light of the moral perfection that Jesus revealed. In this quixotic ethics of the Sermon of the Mount, the Golden Rule has its perfect fruit, for the good and the bad alike, for different reasons, desire that *others* turn the other cheek, go the extra mile, and practice nonresistance. The good want to return gift with gift and love and love, while the bad want to exploit others' submissiveness and generosity for their own power and gain. Either way, the Golden Rule is satisfied, but to willingly let oneself be despoiled by the wicked without resistance seems

ruinous, even suicidal. The strange thing is that a society founded in such an apparently impractical ethics should have proved so practical, for the Christian Church has lasted two thousand years and now has two billion adherents. Not that Christians practice the Golden Rule all the time, far from it! But to the extent that it has drawn them in its direction, it has strengthened, not weakened them, contrary to what the worldly-wise would think.

Jesus seems, as far as we can tell from the evidence of the Gospels, to have lived perfectly by His own quixotic ethics. For example, the Gospels give the impression that He hardly owned anything. While some think He had a house, Jesus Himself says that He "has no place to lay His head" (Luke 9:58). When He needs money, such as to pay the temple tax, it takes a miracle for Him to get it (Matthew 17:24-27). When He needs a donkey, it is given to Him for free (Luke 19:29-33). The only possession we hear about at His death is a mysteriously well-woven garment (John 19:23). He showed that He could withstand hunger during His forty days in the desert, just after His baptism, during which He was tempted by the devil (Matthew 4:1-4). Yet He didn't seem to go hungry once His ministry was underway, for He was so popular as a house guest that He was plausibly slandered as a glutton and a drunkard (Matthew 11:19). So much was His life dedicated to service that even eating seems never to have been done for His own benefit, but to keep company with others. Certain women patronized His ministry financially in some way (Luke 8:3), and there was some sort of money bag kept in common for the apostles by Judas (John 12:6). But we never hear of Jesus doing anything to *earn* money, although He is continually working for the benefit of others as mere gift. As He advised others to do in the Sermon on the Mount, Jesus seems to have sought first the kingdom of God, thinking no more than the lilies of the field of what He would eat or what He would wear (Matthew 6: 25-34).

As for "turn the other cheek" and "do not resist the wicked man," Jesus never used force, except on one revealing occasion. When He found the temple full of moneychangers and merchants selling doves for sacrifice, He wrought havoc, using a whip, and freeing the doves, and overturning the moneychangers' tables, until He had driven them out (Matthew 21:12-13). Clearly, the force used in this case was non-lethal, and protection of a sacred place from sacrilege was the motive. He never used or advocated force on any other occasion. In particular, when He was arrested, Peter drew

a sword and began to fight in His defense, but Jesus told Peter to put the sword away. He would neither use nor condone violence in His own defense. The response of Jesus when He was literally slapped, for supposed insolence to the high priest, sheds light on what the teaching to "turn the other cheek" meant. We are not told that He literally turned the other cheek. Rather, He responded with a gentle reasonableness, asking why He had been slapped, meekly yet not cowed, in a way that was likely either to convert His attacker to sense, or to get Him slapped again. "If I have spoken wrong, bear witness to the wrong," He said. "If I have spoken well, why do you strike Me?" (John 18:23)

As He hung on the Cross, some onlookers marveled that Jesus had saved others yet seemed unable to save Himself. Surely the man who had multiplied the loaves and fishes, healed many, raised some from the dead, walked on water, and calmed a storm at sea, could have gotten Himself down from the Cross by miracle? But neither any of His miracles, not any of His recorded actions whatsoever, were for His own benefit. Just before His ministry, when He is tempted in the desert, and He is famished with hunger after forty days of fasting, Satan urges Him to turn stones into bread to sate His hunger. He refuses. But He will multiply the loaves and fishes to feed a crowd of hungry followers who have neglected to bring provisions in their eagerness to hear Him (Matthew 14:13-21). Nor does He work any miracle *against* anyone, or refuse or fail to do anything that is asked of Him by someone in distress. He has great power, but only to serve others.

Jesus was so brave and wise that He dominates every situation we see Him in in the Gospels. He is never afraid, never tricked, never puzzled, never at a loss for words, never hesitant or indecisive, with the one exception of the night in the garden of Gethsemane when He prays, on the eve of the crucifixion, "Let this cup pass from me" (Matthew 26:39). But he adds "let Thy will be done," and when the cup does not pass from him, He drinks it.

He gets the better of every exchange. He never speaks idly, never utters a platitude or a triviality, never contradicts Himself. He is never boring or predictable. He continually surprises others with His insights or paradoxes, but is Himself never surprised in an argument, never surprised, that is, by a cogent rebuttal or a claim or counter-argument He hadn't thought of. He *does* get surprised at times by the leaps of faith by which people believe in

Him, or the stubbornness with which they resist. He is surprised by the faith of the centurion, and by the unbelief of His hometown.

The moral perfection of Jesus is not so simple an affair as to prevent the Gospel narratives from suggesting some lines of attack upon His character. Yet the criticisms don't survive the process of attempting to formulate them. Some might find it not to their taste that Jesus never laughed or joked in the Gospels. But there's no duty to joke, and He was busy with a very serious mission. Petty legalists in his own day complained that He violated the minutiae of Sabbath observance, but He understood the purpose of the Sabbath better than they. If He were alive today, He might be reproached by the petty moralists of capitalism. Why didn't He get a job, find an occupation, develop a career? Why was He, as an able-bodied man in the prime of life, living off of charity? But of course, saving souls is more important than producing consumer goods and services.

This is very inadequate. It would take a whole book, not so much to assess the ethics of Jesus as a whole, as to begin to tap the wisdom displayed in any single one of His actions or utterances. Hasty judgments won't do for a character so obviously profound. I can write boldly enough, as the self-appointed spokesman for the conscience of mankind, in saying that Agamemnon shouldn't have raped Chryseis, kings and conquerors shouldn't make so much war, men shouldn't own other men as slaves, an Athenian jury shouldn't have condemned Socrates, and Plato shouldn't have gone to be a counselor to a tyrant, or even that it was a moral weakness in Socrates to have fought in the rather unjust wars of his native Athens, or in Gandalf to have been unable to take the Ring, himself, to the fires of Mount Doom. I have enough moral authority for that, merely as a man, with as good a conscience as the next man's. But in judging Jesus, I'm out of my depth. I can't sustain the pose of *me* judging *Him* when it so obviously ought to be the other way around. I have to take it, as I have said, somewhat on faith that Jesus was morally perfect, and that if I were 10 times or 100 times wiser than I am now, I would still find no fault in Him. I can certainly sympathize with agnostics who decline definitely to affirm that Jesus was perfect. It's a hard question to settle intellectually. For me, it's more a process of being overwhelmed with wonder at His character, and finally surrendering to give Him my perfect trust.

If we accept the conclusion of Jesus's moral perfection at least for the sake of argument, it raises some interesting questions.

First, Jesus's moral perfection is all tangled up with His power to work miracles and His claims to be God. If Jesus was God, that might explain why He was able to lead a morally perfect life when no one else can. Moral perfection isn't exactly a miracle. Ought implies can. It must be possible, in principle, for us to live as we ought. Yet it's so difficult that it almost has the character of a miracle when someone achieved it, and suggests something more than human in the man who did it. And if He was God, it makes sense that He was also able to work other miracles. And the fact that even with all this extra power, He comes across not as a magician, not as a figure to evoke fear, but rather a figure to inspire love and hope and comfort, underlines His moral perfection, for if it's difficult to use natural powers well, it's even more difficult to use supernatural powers well. It makes sense that He worked miracles to show He was God, for it would hardly have been reasonable to expect people to believe such an enormous claim without miraculous signs to confirm it. And if He was morally perfect, He must have been God, or He would have been lying when He said He was. So you can't separate Christ's miracles, His divinity, and His moral perfection, so as to distill a merely human Jesus from the figure represented in the Gospels. Of course, we can circle back to the idea that Jesus's character was fabricated or fictionalized by the apostles both to be both morally perfect and to be full of miracles and claims of divinity. But then, again, how were they able to write such fiction?

Second, the moral perfection of Jesus stands out as a hopeful exception to the terrible law of the world that all Creation is vitiated by Fall. Human sin is a big part of the Fall. More human suffering is caused by human sin than by any sort of natural evil. Nature suffers much, too, at the hands of sinful human beings. Humans might, on the contrary, do much to mend the endemic evils of nature. Sinful as we are, we do that in small ways even now. We rescue the occasional wounded animal, and plant gardens as beautiful as natural meadows. But what might a morally perfect human race have accomplished? For now, the life of Jesus looks more like an exception than a cure. One man was perfect, but people in general are still sinful. Yet there seems to be a larger significance in the affair. We'll keep looking into that.

Third, Jesus's moral perfection makes the resurrection more likely. This will seem like a nonsequitur at first, but we already glimpsed the logic of it in chapter 6, in the debate between "Christian" and "Commonsense" about

whether man is mortal or "mortal-if-sinful." In our ordinary experience, virtue does nothing to cure mortality. But our ordinary experience furnishes us with no examples of perfect virtue. And in general, wherever you find one odd thing, you're more likely to find another, because the pattern that excluded the one odd thing may, for all you know, be the same pattern that excluded the other, and the one odd thing shows that the pattern in question does not apply, as might have been expected, to the case at hand. If you find a seashell in the forest, you're more likely to find an arrowhead or a book in the same spot. If you're in a suit-and-tie business meeting and a clown walks into the room, a fire eater just might come next. If you find that Jesus was without sin, you shouldn't be so surprised that He was also not subject to the power of death. And that tips the balance. For if one resets one's priors about the likelihood of the Resurrection from near impossibility to moderate uncertainty, on the grounds that Jesus was strange in his moral perfection and therefore might be strange in other ways as well, then the ordinary, historical, eyewitness evidence of the Resurrection is more than enough to establish its truth with blazing confidence.

In a nutshell:

1. If Jesus were an ordinary man, he would have died and stayed dead.
2. But if Jesus were an ordinary man, his ethical principles would have been limited in their imaginative reach and consistency, and failed to satisfy the human heart's thirst for righteousness, and his conduct would have failed to live up to even his flawed moral principles.
3. But Jesus, alone in history, taught a morally perfect ethics, and lived up perfectly to His own ethical teachings.
4. Therefore Jesus was not an ordinary man.
5. And so any conclusions we've drawn from our experience with ordinary men may not apply to Jesus, and He may have risen from the dead after all.

And that's enough to tip the first domino of doubt, leading to a glorious cascade of evidence-based Bayesian updating that can only end in a calamitous crash into faith.

Chapter 16. The Church in History

The resurrected Jesus didn't stay long on Earth in the flesh. After a few weeks, He went up to Heaven, in an event that Christians celebrate as the Ascension. He left behind one great legacy: the Church. But what *is* the Church?

I beg the reader's indulgence as I take a rather long way round to get to answering that question.

There is a delightfully odd expression in English: "the elephant in the room." It means something people don't want to talk about, which, however, is so obviously important that it's on everyone's minds all the time. Christianity has been to Western civilization, for quite a few generations now, a perennial elephant in the room. I can see the pattern as early as the novels of Jane Austen, in which the characters, though some are clergymen or aspire to the clergy, never pray, never have any religious feelings in a church service, never wonder inwardly, or discuss, whether there's a God, never wonder whether their own souls will be saved, and hardly ever have misgivings of conscience from comparing their conduct to the moral teachings in the scriptures.

Chesterton called this "the atheism of Jane Austen," but it wasn't so much atheism as elephant-in-the-roomism. Jane Austen doesn't deny God, but rather, deftly dances around the great, uncomfortable subject of God. This pattern continues down to modern films, where the characters usually have no religion that we know about, nor even any explicit irreligion. They simply ignore the subject altogether. In romantic comedies, this is surreal, since dating couples usually do get to know about one another's religion. But in films about sports or business, the silence about God is realistic, and the oddity is less in the film than in modern life. We really live that way. All too often, we are careful not to talk about the elephant in the room.

In the classroom, too, and in academic publications, Christianity is often the elephant in the room. We have seen how the natural sciences omit God, and how this can be innocuous, but how it has also given rise to an ideology inimical to Christianity. Economists omit God in their own way, developing models that suppose people are "rational self-interested agents," maximizing a this-worldly sort of happiness based on consumption. Actually, people who only think about making money and buying consumer

goods for comfort and pleasure in this earthly life are quite *ir*rational, since most people believe in God and an afterlife or at least entertain the possibility, and eternity is infinitely more important than the transient pleasures of a moment or a few decades. It's only rational, as Jesus said, to lay up treasures in heaven, where moths don't corrupt nor thieves break through and steal (Matthew 6:20). But the etiquette of academic publication avoids mentioning God. Don't talk about the elephant in the room.

This odd silence about religion is part of what we call secularism, and I'm far from thinking it an unmixed evil. Up to a point, I think it's a necessary purgative medicine for the worst mistake the Church ever made, when it betrayed the non-violence of Jesus and began to use force for the faith. Only in my lifetime has Christianity repudiated persecution thoroughly enough for me to state boldly, without much fear of being contradicted now or in future, a truth that should always have been obvious, and that even the worst of the Spanish inquisitors probably knew in their heart of hearts, namely, that God commands religious freedom. Secularism, by distancing the state and its violence from the Church, helps to safeguard its holy vocation from the temptations of worldly power which have been so ruinous for it in the past. For that, I'm grateful. Yet it's gone too far, becoming not just a political arrangement but almost a worldview, and thereby rendering Western thought strangely incoherent. A secularist worldview is like ripping half the pages at random out of a book. The book won't make sense. Christianity has been interwoven in Western thought from the beginning, and the secular elements in Western thought don't come away clean.

Science is touched by the problem lightly. Science was born in the midst of Christianity, and it's indebted to Christianity for its basic assumption that the world is orderly, rational and intelligible. Christians have long believed that the world is orderly, rational and intelligible because God made it that way, and then made us "in His own image" and so able to understand it. Science inherited this belief that the world is orderly, rational and intelligible, but it doesn't have a reason for thinking so. On the contrary, as we saw in chapter 9, if science oversteps its bounds and becomes the comprehensive ideology of scientific materialism, it becomes incoherent by denying the metaphysical prerequisites of reason. Yet science can largely forget this and carry on its practical business from day to day.

By contrast, secular liberalism is a hopeless mess. It insists ever more aggressively on "rights," "freedom" and "equality." The meaning of those words keeps evolving, and everyone must submit to the latest definition, on pain of a kind of moral ostracism that sometimes spills over into loss of livelihood. But why do secular liberals believe in those things in the first place? In a rather twisted way, I think they're still faithful to the great source of those beliefs, which is the Declaration of Independence, in which Thomas Jefferson, writing as a spokesman for the American revolutionaries, proclaimed that "we hold these truths to be self-evident, that all men are created equal, and are endowed by their Creator with certain inalienable rights, and among these rights are life, liberty and the pursuit of happiness." Secular liberals still *hold these truths to be self-evident*. They don't need to explain why. You're just supposed to know. Even if the latest evolution, the marriage "equality" of being able to have a same-sex union publicly recognized as a marriage, or the freedom to choose one's "gender," was only dreamed up in the past decade or three, it is held to be self-evident, and any denying or questioning of it provokes a moral horror among the thought-minions of secular liberalism which seems disturbingly genuine, considering that we know perfectly well it is of recent manufacture.

Thomas Jefferson's liberalism was not like that. It had deeper roots, for one thing, but also, it was not secular, but rather, explicitly theist. We are *created* equal, says Jefferson; we were *endowed by our Creator* with rights. It's not his fault if his intellectual descendants engage in an indefensible pretense that these words are mere ornament. The word "Creator," while it can obviously be read as a reference to the Christian God, leaves room to substitute other notions of the creating deity, such as the "watchmaker" God of Enlightenment deism. Jefferson's theology was not very orthodox, in fact. But without a Creator God of some sort, the Declaration of Independence makes no sense. Yet modern liberals esteem Jefferson's principles, while wanting to make God optional. It's one of a thousand instances of incoherence resulting from secularism. Secularism loves missing the point, and not talking about the elephant in the room.

But I introduced the old elephant in the room metaphor in order to take certain liberties with it, and end by making a somewhat different point.

So follow me as we imagine that you're at a party, with a lot of pleasant company, sipping wine and munching refreshments and chatting lightly,

when you notice something odd about the decor in the room. One part of the wall bulges out and is very oddly shaped. Some sort of net has been draped over the top of the bulge to provide a place to hang paintings and whatnot, so as to give that part of the wall a touch of normalcy, but the fact is that it isn't a wall at all, but a great heap of wrinkly gray skin, mounted on some sort of pillars which turn out, on closer examination, to be legs. There's a part of it that dangles and twitches: a tail. And the rest of it isn't quite stationary either: it moves slightly as the beast breathes. In fact, the whole thing is nothing more or less than the posterior half of an elephant. It seems to be standing in a curtained doorway, so that its head is not visible. And it's behaving itself surprisingly well under the circumstances. But the awkward fact is that there's half of an elephant in the room.

You start to try to alert people to the situation. It has, after all, some possible danger, as well as a great deal of interest. So you push past some initial indifference and incredulity and manage to get everyone's attention. The challenge you run into is that no one in the room seems to know what an elephant is. Some act as if they've never heard of it, though you get the sense that this is sometimes an affectation. Perhaps it's not very fashionable in this set to know about elephants. Others have quite wrong ideas. "It's a mythical beast," says one, and a few other heads nod complacently. "It's a vague term for any large mammal," says another, to murmurs of approval.

You sense rising irritation as you insist that an elephant is a very specific kind of real animal, but as you describe its enormous size and its wrinkly gray skin, you at least have the advantage of being able to point to these features of the beast whose backside is bulging into the room. But then you commit a terrible faux pas. As you start to explain that an elephant has ears like huge pancakes the shape of Africa, an angry incredulity settles over the crowd. And as you begin to talk about how an elephant's nose is like a long bendy snake, with a sort of hand at the end that can pick things up, and can suck up water and spray it, and is so strong that it can tear trees up by the roots, the guests become so outraged by what they take to be preposterous fictions that you fear you've provoked a riot against you. Instead, they all storm out, and you are soon talking to an empty room.

That's a little like the position I'm in as an apologist talking about the Church. The Church is to history as the elephant is to that room. It can be seen only in part. In part, the Church is an institution operating in the world, and it bears some resemblances to other institutions, such as republics,

companies, armies, clubs, and so forth. In part, the Church is an ideology, a system of shared beliefs that help to unite and mobilize a community. But it has another part, the most important part, which doesn't belong to this fallen, transient world at all, but is resident in eternity. The church is temporal and eternal, worldly and other-worldly, and yet it is a coherent whole. It might have been more diplomatic and tactful for the elephant explainer in the cocktail party to have remained silent about the elephant's trunk, except that an elephant with no trunk makes no sense. It couldn't feed itself. Likewise, the Church could not be what it has been in history if it were not what it is in eternity. In fact, it couldn't feed itself. It would lack the source of its strength and resilience.

It's time to recall that question to which I promised to circle back. What *is* the Church? The outrageous traditional Christian answer is that the Church is the Body of Christ. But what could that even mean?

A part of the meaning may be understood by analogy to an expression like "the regiment of soldiers marched across the field as one body." That means that their movements were highly coordinated in a manner indicating a shared purpose. The regiment is like a body, whose members are distinct yet unified, with different functions but one purpose, so that they cohere into one. Likewise, the Church consists of many members who are distinct yet unified, with different functions but one purpose. And with that, the strange, formidable expression seems to be settling down into an innocuous metaphor.

But wait! Not so fast! Christians don't think "the Body of Christ" is a mere metaphor. It is a vividly physical fact. When Christians come to church on Sunday, a ritual is performed which transforms bread and wine into the body and blood of Christ, which Christians eat. Yes, Christians eat the body and blood of Christ. *That's* how they become members of His body, by physically eating His flesh and blood. The Church, the mystical Body of Christ, is unified and healed, like ordinary human bodies, by the circulation of the Blood.

This is the point at which I expect many readers to drop the book in disgust. How can I ask people to believe such things? It's the sheerest magic!

Secular history prefers not to deal in such mysteries as the Church being the Body of Christ. But it must account for the Church somehow. So it tries to fit the Church into the categories of ordinary secular history, calling it an

institution, for example, or treating it as an ideology. And the Church is a little like those things: a little like, and very different. It is more organic than institutions are, and has at once more unity in belief and more diversity in social class and political outlook than ideologies have. But above all, it is by far more long-lived, durable, resilient, and immune to the usual effects of time than any institution or ideology. Secular history can't explain this strange timelessness of the Church. But Christians can. They say that it's because the Church is the Body of Christ. A body heals its wounds, and assimilates food, and remains itself. And as the elephant could not feed itself without a trunk, the Church could not have lasted this long, in supernatural superiority to all laws of history, if it were merely a human institution or ideology, and were not feeding all the time on the flesh and blood of Christ.

To vary the metaphor, and to borrow an idea from CS Lewis, the Church amidst history is like a straight road running through various landscapes, cutting through the hills and rising above the fens. A road can look beautiful amidst a landscape, a narrow, purposeful line amidst rolling slopes or feathery vegetation, and in that sense it can fit in, and look at home, but it is still clearly a thing apart. In that sense, the road passing through shifting landscapes is like a body passing through various places and shifting seasons: it stays the same, amidst change. That is why the secular history of the Church, with deliberations of Church councils and successions of Church hierarchs and gradual development of Church ritual, is rather boring. It is boring because it is superficial and inessential. The Church is not a product of its history, as a body is not, and as a road is not a product of the landscapes through which it runs.

As a road goes on, unchanging, as it was designed by the engineer; as a body carries its form within it and maintains that form, healing wounds and assimilating food; so the Church goes on, essentially unchanged down the generations, here strewn with leaves as it passes through an autumn forest, there a little sandy as it passes through a windy desert, always adding a few saints to its hagiographic corpus along the way, here picking up a custom like Christmas trees, there a book or a song to recommend, but always quite recognizable as itself, the same Church that it always was. Meeting the Church in history is fun in the same way as it's fun to meet a hometown acquaintance in a foreign city. The familiarity is incongruous, because other things change and grow unfamiliar. The Church remains the same because

it is alive with a supernatural life, having one foot in eternity. It is the Body of the risen Christ, and it is immune to death.

Jesus said: "Heaven and Earth will pass away, but My words will not pass away" (Matthew 24:35). That prophecy has yet to be fully proved, but it's already had a good run. The Church has already outlived almost every ordinary product of human history. It has outlived nations and civilizations and empires, philosophies and ideologies and theories and schools of thought, languages and cultures and social classes. And it is still going strong, spreading and growing, winning new victories. It beat communism. We may live to see it beat the Sexual Revolution.

People live their lives amidst a human superstructure of things that seem permanent, but aren't. They accept things that are passed on down the generations, and get comfort from feeling that their children's life cycles will resemble their own, but often they don't. People hope the same songs and stories and customs, the same holidays and rites of passage, the same words and phrases, will fill their children's and grandchildren's lives, and make the generations rhyme, so to speak, like a poem. But such hopes are often disappointed, and people often outlive things they felt to be permanent, or perceive them changing and fading. In the long run, the secular historian might almost glimpse the pattern which has been revealed to the Christian: that nothing human lasts, except the Church, and that which it chooses to sanctify.

Jesus had relatively little to say about the Church, as far as we know. He mentions it twice, once as a last tribunal to judge and reconcile quarreling Christians (Matthew 18:15-18), and the other to say that it would be founded upon the "rock" of Peter's declaration that "You are the Christ (Messiah), the Son of the Living God" (Matthew 16:15-19). Perhaps He said other things that weren't written down. Jesus had much more to say of the kingdom of heaven. And many of the parables by which Jesus describes the kingdom of heaven are very lucid as descriptions of Church history. For example, Jesus compares the kingdom of heaven to yeast that a woman kneads into a lump of dough, causing the whole loaf to rise (Matthew 13:13). This is a very good metaphor for the way Christianity spreads, converting people through personal contacts, then getting mixed around by the normal flux and trauma of human affairs, and then gradually, almost imperceptibly, transforming human cultures from within, and uplifting them.

The Church has always served as a witness to the resurrection of Jesus, invited men to believe in Him, and served as the community of those who do, so much can be understood about it from considering, down the ages, why some have believed while others have not. This is the theme we took up in chapter 2, that people agree about so many things but disagree about religion and the resurrection of Jesus, which has held true, I think, throughout Christian history, though it has often been masked by an official ascendancy of Christianity that made people keep quiet about their doubts.

Many of the same reasons for faith have persisted down the centuries. Christians have believed based on *eyewitness testimony of the Resurrection*. Christians have believed because of *miracles*. Christians have sometimes believed simply because the truth of Christianity was, or seemed to be, in their time and place, a societal *consensus*. Christians have believed because they have seen the sincere and disinterested *piety* of others, which is indicative of particularly strong belief. *Agreement* and peace among Christians had sometimes strengthened the case for faith. There have been *martyrs*, whose willing and even joyful deaths, show the strength of their convictions in a way that gives others a powerful reason to believe. *Ascetics and monastics*, who choose to live exceptionally abstemious lives and practice lifelong chastity in order to worship God more fully, give evidence of the sincerity of their convictions, the supreme value to them of what the faith has to offer, and therefore the truth of the faith. *Christian teachers and apologists* sometimes aid faith by their persuasive writings. Sometimes *secular science and learning* yield conclusions that affirm Christian doctrines. Sometimes, the faith gets what we might call a *"Cassandra" advantage* from having warned society against a fashion that turns out to be a terrible mistake. Sometimes Christians behave well, and their *virtuous conduct* favors the truth of the faith that inculcated such good habits. Sometimes *Christian societies* are well-governed, prosperous, and powerful, and that may help to convince people to embrace the faith, though sometimes for the wrong reason. Lastly, many have regarded the fulfillment of *prophecies* as evidence of the truth of Christianity.

Clearly, all these reasons are not equally persuasive in all ages, and usually some of them go the other way. Sometimes the prophecies don't seem to be fulfilled, Christians don't seem to behave well, miracles don't seem to be observed, secular science and learning don't support Christian doctrines, and so on. And again, the striking pattern that I see as I look back

on Christian history is that as all these reasons for faith wax and wane over time, the balance of evidence seems to stay roughly the same, leaving honest seekers on a knife edge of uncertainty. Unbelief is always plausible, but it can never settle into an honest complacency. There's always enough evidence to disrupt confident unbelief for anyone who's really interested in the truth. The public evidence, once it is seriously attended to, is enough to lead people to the very doorstep of faith, but it takes private evidence to open the door and let them in. That's just an impression, but I'll try to show you what I mean.

I'll start by dividing Christian history into the following periods: (a) the apostolic age, when eyewitnesses of the Resurrection were still living, (b) the age of martyrs, when the pagan Roman empire was persecuting the early Christian Church, (c) the age of Christian empire and of monks, from the conversion of Constantine until the fall of the empire, which took place a thousand years later in the East than in the West, (d) the Dark Ages, (e) the High Middle Ages, (f) the Renaissance and Reformation period, (g) the Enlightenment, (h) the 19th century, (i) the early 20th century with its revolutions, totalitarianism, and world wars, and (j) the late 20th century and post-Cold War era, down to the present time. Then I'll try to imagine what the evidence for and against Christianity would have looked like from the perspective of someone in a social position corresponding to the likely readers of this book, that is, middle class and well educated.

Imagine you lived in the apostolic age, Christians were a tiny minority, a few thousands or tens of thousands amidst an empire of 50 to 100 million, vastly outnumbered not only by the pagans but by non-Christian Jews. They had no temples, no traditions, and no scriptures except what they shared with the Jews. How could Christianity be taken seriously when Christians were so few and unbelievers so many? Yet the Christians saw the whole Jewish tradition as supportive of their cause, for Jesus was the long-prophesied Messiah. At the same time, Greek philosophy had long tended to favor some sort of monotheism, against the polytheism of Greek religion. Even before Christianity, some Gentiles had become the "God fearers," believing in the Jewish God and adopting some Jewish rites without fully accepting the Law and becoming Jews. For many Jews and God-fearing Gentiles, the good news of the Gospel came as a reconciliation and a fulfillment. If you were an educated Greek or Roman in the apostolic age, you probably either wouldn't have heard of Christianity, or you would have

heard only panicky rumors about their vices and cannibalism and treasonable refusal to worship the emperor. But if you had a real encounter with the Church, you might have met a personal eyewitness of the Resurrection. And Christianity would present itself as an audacious answer to questions that haunted your whole life. You might have witnessed miracles, of which many reported in the New Testament, or known others who had. You might have hastily dismissed the crazy, unintelligible ravings of a tiny minority of madmen, or you might have explored this unlikely source of answers to old, haunting questions, and gotten drawn in.

Now imagine that you lived the age of martyrs. The apostles are gone, and the pagan Roman Empire is still intact. The Church is still small, but steadily growing, in spite of violent persecution by the generally tolerant empire, because Christians alone among the imperial subjects refuse to burn incense to Caesar, the emperor, as to a god, which served as a kind of civic pledge of allegiance. It didn't need to be sincere worship, and the Romans themselves don't seem to have taken it very seriously. But they were savage against the baffling stubbornness of Christians refusing to go along with a ritual so obviously innocuous. In the hagiographies that come down to us from that time, Roman officials don't scruple to inflict multiple tortures for disobedience, while at the same time offering glittering rewards for submission. If you were an educated Greek or Roman in the second or third century A.D., you would likely have known about the Christians largely in their role as victims of spectacular persecution. You might have seen some die in the Colosseum, slain by wild beasts for the entertainment of the populace. You would have heard some propaganda against the Christians, yet you might also have known that they led exceptionally virtuous lives, on average, caring for the poor and refraining from prostitution and other vices. It would have been hard to get a clear explanation of their doctrines. The writings that we now call the New Testament were in circulation, but hadn't been compiled into a book, and other Christian writings were scarce. Christians were, moreover, rather secretive. The likelihood of dying in the arena would be a major deterrent to conversion to Christianity, yet the dazzling courage of the martyrs, their willingness to die for their faith, could not but impress you, and give you a reason to believe that the faith which could inspire such courage and sacrifice must be worth much. And so people kept joining, and the Church kept growing.

If you had lived in the age of Christian Empire, which lasted until 476 AD in the west, and 1453 AD in the east, you would have had new reasons to believe, but also new reasons for doubt. From the conversion of Constantine onwards, it became, more often than not, advantageous, in a worldly sense, to be Christian. For the first time, there was much temptation to be an *insincere* Christian. Meanwhile, the great disappointment for those who had kept the faith in the face of persecutions must have been that the conversion to Christianity did so little to improve the *conduct* of the imperial regime, its ruling class, and the citizenry in general. It would be reasonable to expect that Christians would always behave better than unbelievers, since the Church teaches such a sublime ethics and promises eternal rewards to the good. It's only rational for Christian true believers to behave very well indeed. And it seems that in the age of martyrs, Christians were distinguished by outstanding virtue. Yet when the empire converted to Christianity, the ruling class largely retained the characteristic sins of a ruling class, the luxury and avarice and pride and ambition and propensity for deceitful intrigues and cruelty. At the same time, one gets the sense that the average level of piety in every parish fell, leaving those who wanted to live a life of prayer, and avoid the company of wicked worldlings, feeling frustrated and longing for something different. They found it in the desert. We don't know when monasticism began, but it thrived and became important in the age of Christian empire. It was not ordered by the Church. It was a spontaneous, bottom-up affair. Spiritual heroes like Saint Anthony and Saint Pachomius abandoned civilization and sought a pure life of prayer in the desert, where they lived in amazingly abstemious circumstances. Eventually, others followed, wanting to be near them and imitate them. Sometimes these became organized into communities, with more or less rigid rules of life to keep the peace, foster continuous spiritual exercise, and keep temptation at bay. When the great patriarch Saint Athanasius, champion of orthodoxy, was being hunted by pagan or heretical emperors who wanted to kill him, he took refuge among the monks of Egypt, where the empire's writ did not run. This was also the age of the greatest Church Fathers, holy men and great writers and intellectuals, who explained and defended Christian teachings far better than had ever been done before. In the 4th and 5th centuries, as never before, there were resources available for forming an intellectual conviction in the truth of Christianity.

As an educated Greek or Roman in the age of Christian empire, you might well have converted to Christianity, as so many others were doing. But would you really have believed? Or would you have been merely conforming to fashion, or worse, pandering to the new power elite? Or perhaps, like Julian the apostate, you would have been enthralled by the romantic glamor of the past and become a conscientious pagan. Paganism was fading, and if not exactly persecuted, it was having its public presence curtailed. Many pagan temples were destroyed. But it had a wealth of beautiful, imaginative stories, and had a long run of glorious achievements behind it. Christianity had nothing to offer to rival its literature for martial thrill and aesthetic ecstasy. One emperor, Julian "the Apostate," was raised Christian but, upon attaining the throne, cast it off and dedicated his reign to a romantic infatuation with paganism. Doubtless there were many others, of a lower profile, who rejected the rather sordid Christian present in favor of the glorious pagan past. Yet even as he embraced paganism, Julian urged pagan priests to behave like Christian priests in some ways, for example in practicing charity towards the poor. It was too undeniable that Christians had gotten many things right. And paganism couldn't be forged into a coherent worldview. Perhaps you would have found a return to paganism appealing, yet also found that reason barred the way. If you became, in this age, not just a skin-deep, conformist Christian, but a real Christian true believer, I think the likeliest reasons would be the compelling arguments of the Church Fathers and/or the puzzling but inspiring examples of the monks, who took the place of the martyrs as the exemplars of heroic self-sacrifice for the faith.

If you had lived in the Dark Ages, Christianity would present itself almost as the only option, yet there would be plenty of reasons for disillusionment. Rodney Stark argues that the early medieval centuries were not dark, but rather, were technologically creative, saw the near disappearance of slavery in Western Europe under the influence of the Church, and were really a time of improvement in the human condition. But there was much chaos and bloodshed, and education and writing became much scarcer. Paganism had faded, and the Church enjoyed a kind of near-universal support among the Romanized peoples of the former empire. It converted the barbarian conquerors too, and even spread beyond the old Roman frontiers into Ireland, and Germany, and Scandinavia. That favored faith. There were monks, and there were miracles. If you had lived in the

Dark Ages, you must have been impressed by the way the Church alone carried the torch of civilization through a sea of barbarism and chaos. Every monastery was a school. But the conduct of many Christians was appalling. Even in Constantinople, where Christianity had the deepest roots, murderous intrigue for the throne was routine. In the West, the papacy in Rome had to begun to play kingmaker and patronize wars in a way that was not quite seemly. The present must have seemed a bleak contrast to the classical past, and it must have been disillusioning that a Christianized civilization had been so unable to preserve and build on the ancient pagan heritage. And then there burst forth from the East a new rival, Islam, stoutly monotheistic and vigorously martial, conquering the cradle of civilization with a swiftness that seemed miraculous. Lost to Christianity were Egypt and Carthage and Spain and most of Asia Minor. Was God on their side? Stay-at-homes in Constantinople or Italy or France might hardly have had the option of converting, but they must have doubted.

If you had lived in the High Middle Ages, notably the 12th and the 13th centuries, a time of great progress, creativity, and cultural splendor, you could begin to be impressed by what Christianity had achieved as a cultivator of secular civilization. While both the Protestant Reformation and the Enlightenment have tried hard to maintain a pose of scornful superiority to the High Middle Ages, it continues to fascinate, with its knights and tournaments and crusades and castles and chivalrous courts, its Franciscan friars and Gothic cathedrals, the poetry of Dante and the legends of Robin Hood, the first universities and the scholastic philosophers, the Magna Carta and the birth of parliaments, and the beginnings of the great European nations. Christian faith in the High Middle Ages was supported by profound societal consensus, learned writings, much theological unity, and the prayers and ascetical exploits of monks and nuns, while for the first time, a civilization with Christian foundations was emerging, and it already showed the signs of genius and dynamism. Against this, there was a rupture between east and west, with the pope of Rome and the patriarch of Constantinople mutually excommunicating one another. The revival of secular learning in the medieval universities gave rise to new challenges to faith, such as Aristotle's doctrine that the universe had always existed, contrary to the Christian doctrine of creation. Perhaps there were grounds for disappointment, too, with the failure of Christians' conduct in general to improve more, after centuries of Christian faith.

Above all, in the West, the horrible and deeply disillusioning surprise was that *the Church itself became for the first time a source of violence*, in perfect contradiction to the Gospels. In the past, *Christians* had often behaved violently and unjustly, but *the Church itself* hadn't instigated violence or organized wars. In the High Middle Ages, the Church began to organize crusades, not only against Muslims but against fellow Christians, and it had its bloody vendettas, and its torturers. By the late Middle Ages, the Church in the West had taken on some of the characteristics of a totalitarian regime, indoctrinating the population in propaganda, imposing censorship, and threatening dissenters with torture and death. If you were a conscientious seeker after truth in the high or late Middle Ages, you must have shared in the widespread repugnance at what the Church had become, and in the aspirations to reform. Yet you probably wouldn't have sought a way out of Christianity, because there were no alternatives on offer. Islam had proved to be a school of tyrants, and morally inferior, practicing slavery on a large scale, for example, after it had largely disappeared from Europe. Muslims were still polygamous, while Christians had adorned monogamous marriage with the art of romantic love. Some began to seek refuge in the Greco-Roman past, and a long love affair with pagan literature began, which would continue for centuries. But paganism clearly didn't make much sense or have evidence to support it. As clearly in the 14th century as in the 4th, Christianity offered the most coherent worldview and the sublimest ethical teachings. Europe was probably becoming more Christian at the grassroots, more pious, more informed about scripture, more eager for salvation, but that only made them more aware of how stark was the contrast between the teachings of Christ and the conduct of "Christian" kings and popes. The challenge was to find a way to be more Christian than the Church.

In the period that we remember as the Renaissance, which began in Italy in the 14th century and spread to the rest of Europe in the 16th, and the Reformation, which began in the 16th century and overlapped the later Renaissance, some of these dreams were fulfilled, and Europe saw both a revival of ancient patterns of intellectual vitality and political freedom, and Christianity freed from the yoke of a Church that was in many ways worldly and tyrannical, freed to try to restore the pristine Christianity of the early Church. The very name of the Renaissance, meaning "rebirth," can suggest a turning away from Christianity, since what was supposed to be

being reborn except the Greco-Roman, pagan past? Painters begin to draw the Greek gods with great enthusiasm. And yet the Renaissance played out entirely within the framework of Christianity, never really challenging it at all. And the Italian city-states of the 13th through 16th centuries were quite successful in emulating the civic self-government, political freedom, intellectual exploration and artistic brilliance of the city-states of ancient Greece, while all the while remaining Christian. As for the Reformation, opinions will differ about how successful it was and whether the price was worth paying, but clearly it failed in half of Europe, and left Christendom more divided than ever before. Worse, in precipitated terrible wars among Christians that were in part religiously motivated: men killing for the sake of God.

If you were an educated European in 1500 or 1600, you would have been raised a Christian, and you would be aware of no articulate alternatives except paganism, Judaism and Islam. That would make it hard to opt out, which in any case probably wouldn't be safe, since most European polities at that time enforced some degree of religious conformity. Moreover, it was increasingly clear that Europe had produced a civilization dazzlingly superior to its contemporaries, and superior to the ancients too. Europe alone had circumnavigated the globe, conquered the Americas with ease, and found many easy conquests in Africa and Asia as well. Europeans were more knowledgeable, braver, better able to cooperate, more effective than others, and it seemed a great credit to Christianity that it had laid the foundations of the civilization that produced such men. And yet the conduct of that great civilization was totally different from the ethics of the Gospels. And the agony of disillusionment that many thoughtful people seem to have felt in the intolerant Church of the Middle Ages gave way, not to reform and freedom, but to division and bitterness and war, was intense. Descartes, who fought in the bloody Thirty Years War in which religion, Catholic versus Protestant, was an important *casus belli*, can be thought of as a tragic case, driven to doubt everything because the existential clash of religious authorities left him with no one he could trust. There was no articulate, plausible alternative to Christianity, but many minds were beginning to grope for one.

As we move forward into the Enlightenment, we enter familiar ground. Earlier chapters have described how natural science gradually became the centerpiece of the first worldview in a millennium to present itself as a

coherent, comprehensive, rational alternative to Christianity. That worldview was not really completed until Darwin's *Origin of Species* in 1859. But this glance backward over Christian history has added a piece of the puzzle, for it shows why European intellectuals were so eager for there to be a coherent alternative to Christianity. In the time of the French Revolution there wasn't, and the grotesque attempts of the French revolutionaries to make a substitute for Christianity, instituting the Worship of Reason in 1793, then the Cult of the Supreme Being in 1794, serve to underscore the pathos of those who had long longed to believe in *something* other than Christianity, but couldn't find anything plausible. Well, now we have a better idea why they wanted a way out. The long, long shadow of the crimes of the medieval Church, much mitigated by the 18th century but still quite unrepented, made an agony of cynicism and disillusionment in conscientious minds. They sought to escape from the intolerable paradox of crusaders and inquisitors killing men in the name of the Prince of Peace.

Persistently down the centuries, in the time of Robespierre as much as in the time of Luther, Christian ethics, in many aspects and guises, compelled men to reject medieval legacies that were all tangled up with the authority of the Church. But what standing had they to defy the Church? Where would they get the authority to do so? Some wrought reformations of Christianity from within. The English evangelicals who spearheaded the abolition of slavery didn't much bother with the Church's historical baggage: they were born again in Christ, and sought to live by his teachings, and that meant freeing the slaves. Such historically innocent Christianities could spring up and join the stream somehow, and Christianity persisted down the generations, waxing and waning a little, often unfashionable in the best society, yet somehow, quietly, becoming pervasive enough to keep setting the tone for a country or generation. The 19th century, for example, despite everything, was a golden age for Christianity. Never before had Christian family values been so normal, or Christian missionary efforts so far-reaching. At the same time, the scientific materialist challenge to Christianity was being fitted out. But the eagerness of so many to embrace it owed much to a great incoherence within a Christianity that seems to need to encompass both the perfect ethics and meek suffering of Jesus and the totalitarian thought control and torture techniques of the Inquisition, both the heroic non-violence of the martyrs and the sordid, bloodthirsty tragedy of the Crusades.

Before 1914, there were a few decades during which the intelligentsia was developing and refining and being converted to various, overlapping post-Christian belief systems, even as an established order steeped in Christianity, and to some extent even still rooted in the Middle Ages, persisted and supplied a helpful stability. Elites were proud of and enjoyed the civilization they knew, and wanted it to last, and were somewhat soft on, or protective of, silly old Christianity, because it seemed likely to be contributing to the maintenance of that civilization's institutions and culture. For some, Christianity almost seems to have taken on the character of a noble lie. It was said of a Voltaire that he didn't want his guests to speculate about the non-existence of God in the servants' hearing, lest, being relieved of the fear of hell, they should steal his spoons. But after World War I shattered the old order, the elite would rebuild on the basis of ideas that they believed in more than Christianity. It is sometimes said that the three great modern thinkers were Charles Darwin, Karl Marx, and Sigmund Freud. Marx looked forward to a "dictatorship of the proletariat." Lenin instituted it. Darwin saw a world that was gradually improved through the survival of the fittest. Hitler sought to make a better world by conquering it and allowing only the fittest to survive. Freud analyzed the human mind and reduced it to a bundle of instincts and irrational inhibitions. The Sexual Revolution set out to overrule the inhibitions by reason, and exploit the instincts for pleasure.

Christianity, which was against all these disastrous errors from the beginning, has won many converts from among modernity's disillusioned. Horror at the French Revolution did much to fuel the strong Christianity of the 19th century, and the strong Christianity of the mid-20th century was in part a reaction against the horrors of Nazism and communism. And many of those you will meet in any church service on a Sunday morning today turn out, if you probe their stories, to be refugees from the Sexual Revolution, from divorce and broken homes and dreary, exploitative spells of cohabitation fraught with deceit and dishonesty, perhaps even from abortion, or simply from the loneliness that is so pervasive in a culture where wholesome family life has come to seem hardly possible. The old Cassandra argument for Christianity has persuaded many, and ought to persuade more, though unfortunately, many are still under the spell of the Sexual Revolution, and haven't seen through it yet.

But we've come to the present, so let's see where the public evidence stands now. Eyewitness testimony of the Resurrection is remote, but recent biblical scholarship has made it more credible. Miracles are unfashionable, though often reported, but are best treated as private evidence for purposes of this argument. While Christianity is not a societal consensus, there is much societal consensus about many values and principles that have no real source other than Christianity. There's plenty of fervent Christian piety about, though you have to know where to look for it, and some people may not find much in their circle of acquaintance. I hope that I've persuaded you that modern natural science is consistent with and even provides some striking support for key Christian doctrines, but I don't think this is widely recognized, and an old-fashioned, 19th-century-flavored notion of a war between religion and science still lingers in many people's minds. I've heard rumors of a revival of monasticism but I can't find much evidence that it's substantial.

The conduct of Christians leaves much to be desired, as usual, yet in one respect, I think there has been a very important breakthrough which deserves to absolutely steamroller much of the mental resistance to the faith in so many minds. That is that the violent intolerance which stained the Christian churches for centuries has been utterly purged. It should always have been obvious that God utterly forbids any man to compel another man to worship Christ, but now it *is* obvious, and it would be hard to find a hundred Christians on the face of the Earth who would dare to be so impious as to defend the Inquisition. If the Inquisition could be revived today, it would accomplish nothing but to make a million martyrs to the truth that God commands religious freedom. Christianity has been cleansed of the worst sin that ever marred it. There is also no longer any religious violence among Christians. In a very few places, such as Northern Ireland, religious identities still serve as ethnic markers that correlate with the sides taken in a war, but having Christian religious leaders urge their flocks to go fight against other Christians to expunge heresy is a thing of the past, and will never be seen again.

I look for one important kind of evidence for Christianity to grow in the years to come. Over the past millennium, Christianity in most of Europe, most of the time, and in North America nearly all the time, has long been deprived by its safety of one of the most powerful forms of evidence in its favor: the witness of the martyrs. The United States of America has almost

no martyrs. And it still seems unlikely that anyone will actually have to die for their Christian faith at the hands of the government in the foreseeable future. Yet many are beginning to face a different kind of martyrdom.

Christians know that there is no such thing as gay marriage and that gender is a biological endowment. It is dishonest to introduce one man as the husband of another man, or to refer to a (biological) woman as "he" or a man as "she." But in many arenas of life, especially universities and many educated professions, it's no longer safe to refrain from such dishonesty. It won't get you killed, but it may get you fired. And is it even honest to accept such jobs in the first place, if you foresee that conscience forbids you to meet the expectations of the role?

And so it seems to be dawning on many Christians that their Christian integrity may demand that they forego elite institutions and educated professions, and that working with their hands among the humble, at the cost of leaving much of their intellectual potential frustrated, may be the only way to live in truth. Let them remember the words of Christ. "Truly I tell you... no one who has left home or brothers or sisters or mother or father or children or fields for Me and the gospel will fail to receive a hundred times as much in this present age: homes, brothers, sisters, mothers, children and fields—along with persecutions—and in the age to come eternal life" (Mark 10:29-30). Rewards unlooked for come to those who seek first the kingdom of heaven.

The word "martyr" has come to be reserved mostly for those who have died for the faith, for there are so many of those in history that Christians lack time or memory to honor them all, and to add those who merely suffered downward social mobility for the faith would make the list even more unwieldy. Yet the principle of martyrdom, of witness leading to sacrifice and sacrifice serving as witness, is broader than that. Those who sacrifice brilliant prospects as judges, politicians, corporate leaders, professors, actors, or writers, or for that matter workaday jobs as bakers, florists, and photographers, for the sake of their Christian integrity, may sometimes do as much to prove the sincerity of their convictions and inspire faith in others as the ancient martyrs whose blood was the proverbial seed of the Church.

Let us Christians not take offense at the slanders of the world, but profit by them instead. Let them teach us humility, and goad us on to amendment of life. One is not a "hater" for denying gay marriage, yet if we are called

"haters," is there no justice in the charge? Do we never, like the priest and the Levite and the parable, walk to the other side of the road to avoid seeing the suffering, when we ought to help? Do none of our fellow men stand in the position of Lazarus, suffering in poverty at our gates as we feast? Let us not be righteous in our own eyes, lest we be self-righteous in the eyes of others. The more we proclaim our unworthiness, the less our faults and sins will discredit the Gospel and alienate our erring brothers and sisters from their only hope of salvation, instead of merely discrediting ourselves. Whenever the world slaps us on one cheek by insulting us, let us learn to turn the other cheek by insulting ourselves even more.

By this time, I hope I've managed to convey how little reason there is to think that *now in particular* Christianity is incredible. It's always been quite reasonable to regard it as incredible that Jesus rose from the dead, or even more, that sinful human souls can be redeemed and made fit to live with God in bliss for eternity. But the public evidence is, on balance, as favorable now as it has ever been. On the other hand, couldn't God make the evidence stronger? For the resurrection of Jesus, it seems to me that He clearly could. There could have been thousands or millions of witnesses instead of hundreds. There could have been fifty eyewitness accounts written down, instead of just three or four. (Was Mark an eyewitness? Never mind.) Why didn't God make the evidence as strong as possible?

Here I'm speculating a bit, but it seems to me that God didn't want the evidence to be really compelling, because he wants faith to be free. He doesn't want people to believe in the resurrection, for whom the resurrection wouldn't be good news. The mere fact of the resurrection of Jesus isn't enough. If it were a single, solitary event, with no larger ramifications, it wouldn't be worth knowing about. It's precisely when someone has glimpsed, or probably meditated on and agonized over, the pre-Christian wisdom that I described in Chapter 14, the wonder and tragedy of Creation and Fall, to the point where the world has become a riddle to which they desperately seek an answer, when people really hunger and thirst after righteousness, when people long for Redemption with their whole being, that the news the resurrection of Jesus can be appreciated, properly received, not as an anomaly but as the last secret, the beginning of the answer to all questions. And so God keeps providing, down the ages, just enough evidence to tip into faith those who are led to the brink of it by hope, and to disturb, a little, the complacency of unbelief. But He will not

compel, not by instruments of torture as every sane and genuine Christian has always known from the beginning, but also not by evidence that's too overwhelming.

Of course, to believe in the resurrected Jesus as the savior of the world is only the entry ticket, so to speak, to the Church. The Church isn't just the set of such people but the community, or rather, to speak more truly, the Body into which they are sacramentally Incorporated. Jesus Himself, as I said above, refers to the Church in the Gospels only twice, but He has much more to say about the kingdom of heaven, of which the Church is the representative or embassy on Earth. Jesus compared to the kingdom of heaven to a mustard seed, the smallest of seeds, which yet grows into a great tree so that the birds can nest in its branches, and we see the truth of this in the incredible growth of the Church from a handful of believers at the Ascension to two billion Christians today, with countless kings and sages and nobles having nested in its branches. Jesus compares the kingdom of heaven to yeast kneaded into a lump of dough and making it rise, and the truth of this can be seen both in the way Christian faith gradually works its way into and transforms individual souls, and in the way Christianity spreads through populations and transforms cultures. Jesus compares the kingdom to a dragnet that pulls up things of every kind, then sorts them, keeping the good and discarding the bad, and we can see the truth of this in the way Christianity drags things up within individual minds to judge and to sanctify or condemn, and in the way Christianity sifts and judges cultures from within. So it will do at Judgment Day, for the whole of the human race and all of human history. Jesus compares himself to a Vine and believers to the branches that bear fruit, and to see how many believers have felt as at home in Christ as a branch in a vine, and how much fruit of peace and justice and mercy and heroism they have borne! He compares himself to a shepherd and believers to a flock of sheep who rejoice at His voice and follow Him to pasture, and see how many have left behind slavery to their own self-will and wholeheartedly and humbly follow Jesus, and to what pastures of inner peace, and often of worldly happiness also, He has led them!

In Jesus and the Church, we have our proposed agent of Redemption. I set up the problem of Creation and Fall with all the pathos of which I was capable in Chapter 14. It is in Jesus and the Church that I hope to persuade you there is a solution. To the nature of that solution, we turn next.

Chapter 17: The Meaning of Redemption

Pre-Christian worldviews, at their wisest, understand Creation and Fall, but not Redemption. Christianity promises Redemption, an escape from the tragedy and transience of the world. But are its promises credible? Can we even conceive an alternative to this tragic, transient world for us? What would we even wish for? If God promises us perfect happiness, what would that look like? Does that sound like an invitation to irresponsible fantasy? And yet Christians have always included *hope* among the "theological virtues."

What to wish for is a harder question than it seems. The pattern of Creation and Fall is so pervasive that it's hard to imagine a world free of a tendency towards chaos and mortality. We can scarcely conceive what the laws of physics would look like with the Second Law of Thermodynamics left out. Perhaps it's even harder to imagine what men and women would be like, and what we ourselves would be like, without a propensity to sin. But we need to try. If the pre-Christian worldview of Creation, Fall, and nothing else is unacceptable, and if we seek a hope of Redemption to make it all right, then to imagine what Redemption could look like is a first step towards seeking it. If we put our hopes for Redemption in Jesus and the Church, we need some notion of what Jesus and the Church would have to accomplish in order to fulfill those hopes.

"Redemption" and "salvation," "redeem" and "save," are religious words, but they also have non-religious natural language uses which can help us understand their religious meaning.

Suppose you've been working at your computer for a few hours, when you notice something amiss. Your computer has been infected by a virus. You click through all the documents that you have open, assess each one, and *save* some—that word!—while discarding others. Then you restart, run your antivirus software, and begin a new, virus-free session. The documents you save still exist. The documents you discard are consigned to oblivion, erased, deleted, lost forever.

What does it feel like to be deleted like that? It doesn't feel like anything, of course, for the data. Data isn't sentient. But what if a human being were consigned to oblivion like that, deleted, erased, lost forever? We'll come back to that.

Different question: why do you do it? Why do you save some documents and discard others? You do it to declutter, so that you can find files you want, and avoid stumbling into abandoned projects by opening the wrong files.

The idea of salvation, similarly, is that God's world has been infected by the virus of evil, so God is preparing to shut down the world, purging it of the virus of evil in the process, and then restart it, this time wholly good. He'll save whatever is worth saving, and let the rest be cast into oblivion, cut off, abandoned, forgotten, lost forever. As a computer has two kinds of memory, RAM and storage, so there are two kinds of life, for which CS Lewis uses the Greek words *bios* and *zoe*. They are not easily distinguishable while the computer is on, but as RAM vanishes when the power supply is cut off while storage remains, so *bios* is native to and dependent on this transient, material world and must perish with it, but *zoe* resides in eternity, and when this transient world passes away, whatever has been saved from *bios* into *zoe* will still be there. As St. Paul wrote, "flesh and blood cannot inherit the kingdom of God, nor does the perishable inherit the imperishable... [but] we will all be changed [and] the perishable must be clothed with the imperishable, and the mortal with immortality. When the perishable has been clothed with the imperishable and the mortal with immortality, then the saying that is written will come to pass: 'Death has been swallowed up in victory.'" (1 Corinthians 15:50-54).

To vary the metaphor, suppose you have a sudden, desperate need for cash, so you take many of the most valuable, useful, beautiful items in your house, and take them to a pawnbroker. The pawnbroker accepts the items, gives you a loan, and tells you a deadline to "redeem"—that word!—the items. For now, the items are still yours, though you don't get to use them. If you pay back the loan before the deadline, you can get the items back. But if not, they cease to be yours and belong to the pawnbroker instead.

We are a little like items in Satan's pawn shop. We were created originally for God's delight, but for now, the debt of sin imprisons us, exiles us from God's company, and makes us useless. We may get redeemed, and become part of God's household again, useful and beautiful and valued. Or we may not get redeemed, and become instead the property of Satan forever.

By now, I will have provoked a burning question. Why is there Hell? If God is so loving and good and powerful, why doesn't He save everyone?

There is no blame on the computer user for saving some files and letting others vanish when the power stops. There is no blame on the debtor who declines to redeem some of his pawned things. There is no blame in these cases because the things lost forever, abandoned to oblivion, were not sentient and could not suffer. But human beings matter in a way that pawned personal belongings and files in a computer do not. They have feelings. They can suffer. And scripture and Christian tradition sometimes represent damned souls as suffering terribly. Why?

Surely God ought to save everyone if He can, especially if the alternative is so horrible. And mustn't He be able to do so if He is omnipotent? Yet the funny thing is that in setting out to save human souls, God has taken on a task where His omnipotence doesn't help Him that much. Mere power can't make a free being love. That's part of the reason why He relinquished His omnipotence, and became a helpless baby, lying in a manger on that first Christmas night. That's part of the reason why He let His complete powerlessness be displayed as He hung, wretched and abandoned and in unimaginable pain, on the Cross. Some who could not love a mere all-powerful Creator are stirred to love by the helpless baby, or moved to a pity that leads to love by the innocent man, the one truly innocent man who ever lived, tormented and dying. But even in the face of that, some will not love. So no, it seems that God can't save all. He tried His very best. But we are free, and that means being free to reject His every offer.

Some people don't want to be saved. At one level, salvation as they imagine it from bits of Christian imagery doesn't appeal. They don't want to spend eternity playing harps in the clouds. That's flippant, and of course Christians have long known that the imagery which scripture and tradition use to describe Heaven is symbolic of a state of bliss that we can't imagine properly, though I think life does give us many glimpses of it. Yet there is a serious point here, too. For it's not just the imagery but the reality of salvation that some people don't want.

Some people don't want to love all the time. Some people don't want to be with God. Maybe in a sense none of us want, none of us, that is, desire purely and steadfastly, to love all the time, and to be with God. But Christians, at least, have resolved to become, with God's help, at any cost, the kind of people who do want to love all the time and be with God. What

about those who don't? What about those who won't repent? Couldn't God do something better for them than send them to Hell?

Let's think about that one. What would make you, as you are now, in your sins, happy? What could God do for you to make you happy, if you won't repent?

Let's start with a naive suggestion. Suppose God gave you unlimited money. You could buy anything you want. Palaces. Yachts. European vacations. The finest cuisine, prepared by the world's best chefs. Live music. Wine. Would that make you happy?

At first, maybe. Up to a point. In a way. For a while. But wealth has its limitations. You'll still die eventually. Lots of things can't be bought. If you want to be handsome or beautiful, you could try plastic surgery, but it will probably never match natural good looks. Money can't buy you friendship, for friendship must by nature be disinterested. Worse, money tends to attract *false* friends. You'll probably always suspect, and probably with good reason, that people who seem to like you are just looking for an angle to get a little of your money. You'll see others around you getting some moral satisfaction from humdrum workdays that put food on the family table, and you'll find that's denied to you, because your vast wealth makes ordinary wages meaningless. You have to worry about kidnappers and confidence tricksters, from whom poverty keeps other people safe. And you'll be envied and talked about behind your back. If you're prone to addictions, wealth makes them easier to fall into. The price of alcoholic beverages is no obstacle. Nor is the need to show up to work sober in the morning.

Could you fall in love? Of course. And your money *might* make the object of your affection more likely to want to marry you. But how would you know if they really loved you? The nice thing about being poor is that anyone who wants to marry you must want to marry you for yourself. You're all you have to offer. But the rich can never be sure. Will your spouse find a way to get enough of your money to live out their lives in luxury, and then leave you? Worse, the fortune hunters that you'll attract as romantic partners may crowd out the ones who would have loved you for yourself. You might never meet your true love because you're besieged by gold diggers.

Similar problems will afflict all your endeavors. You probably won't achieve excellence in the arts, because flatterers will crowd out the honest

critics who could have improved you. Your pursuit of wisdom will be impeded by your lack of so many ordinary experiences that make up the texture of life for ordinary people, like hard work and thrift and charity that involves real self-sacrifice. All things considered, isn't it doubtful whether unlimited money would make you happier at all? Surely it's obvious, in any case, that it wouldn't suffice to make anyone *perfectly* happy.

If poverty can be a blessing in disguise, so may all sorts of other things that we habitually regret or complain about. Bad weather spoils your outdoor plans and makes you discover a good book. An illness makes you bedridden for a week, and thereby reveals how many friends are willing to come visit and bring you meals. Your car breaks down, and you get good exercise walking to the grocery store. A devastating earthquake hits a city, and provides countless opportunities for heroism and charity. Life is full of this sort of thing. An oyster doesn't make a pearl unless a grain of sand, or some other irritant, gets stuck in its shell. The oyster deposits around the irritating object a substance that protects the oyster's flesh, thereby forming a pearl. That's a metaphor for how trouble can work upon our souls to create virtue and beauty. It's why Christians urge people to glorify God for all things, and to be grateful even in times of the greatest trouble, having faith that things are ordered for our good, even when we can't see how.

If money isn't enough, could God make you happy by giving you unlimited power? That's much worse. We should be grateful for our weakness, for it protects us from many sins. Even billionaires are blessed with some of that fortunate weakness, for the free societies that we live in today limit the power of the rich in all sorts of wholesome ways. They can't force people to pretend to like them. They can't go out and buy a harem of slave concubines. If they're angry with someone, they can't issue a decree to have them killed. But the tyrant, the despot, and the absolutist king are far less protected by weakness from wrongdoing. If they're angry, murder is easy and safe. Since everyone around them knows that an offending word could get them killed, good people will avoid them, while those who do mill about them will have mercenary motives and tell them lies. Any preference they signal will be pandered to, including a preference for friendship. But real friendship is disinterested. The tyrant will seek friends and get only flatterers. He can't risk trusting anyone, because anyone he trusts might betray him, and might *be right* to betray him. If he loses power, he's likely to be killed from revenge or to prevent his return to it, or perhaps

on dispassionate grounds of justice. Tyranny is as much a trap for the tyrant as it is a nightmare for the subjects.

Let's try something more difficult. Would eternal life and eternal youth make you happy? Wouldn't the world be a better place if the curse of death could be revoked? Why did God make death?

If you alone were immortal and eternally young, it would, of course, be sad to watch everyone you knew, friends and lovers and children, grow old and die, while you remained, as in the book *Tuck Everlasting*. Would the problem of accumulating bereavement for a lonely immortal be solved if immortality could be spread around more generously? Yes, probably, to a great extent, but that would bring on a different problem.

How good are you getting along with people? Have you ever lost a friend by giving offense, or taking offense? Short of definitely losing a friend at a particular moment, are there people who you were closer to at one time than you are now? I mean closer in thought and feeling of course, but perhaps physically too. Doubtless, there are people you once lived with, or near, whom you now live apart from, or far away from. This physical dispersal is often accidental or involuntary, and can be consistent with a warm-hearted emotional intimacy. Some may regret leaving their hometown for a job or a college education or a spouse. Some may regret that the cost of getting married is leaving their parents' house. And yet our easy assumption that privacy is a good thing suggests that all these physical separations are usually not, on balance, regretted. Think again about people you were once closer to than you are now. Perhaps you feel the pain of regret that the former intimacy has diminished. But *would you want to live with them?* How would that work out? If you wouldn't, maybe it's more than just accident and circumstance that drove you apart.

CS Lewis, in *The Great Divorce*, hauntingly represented Hell as a great, drab city that was constantly growing because of the combination of people's quarrelsomeness with a kind of mediocre material abundance. You could make a house just by thinking one, so people kept moving away whenever they had a spat with the neighbors, as they constantly did. It's eerily evocative of the world we live in, except that we're forced to remain a bit closer than that by scarcity and our economic dependence on each other, and the diffusion process is limited by death.

Perhaps I've made you think that you should be better at getting along with people, and try harder to keep in touch with your friends. But there are

some people you definitely *don't* want to keep in touch with, and couldn't get along with. They're bad, bad for you at any rate, maybe bad absolutely. You couldn't feel happy in their presence. Maybe you wouldn't say you want them dead. You're probably right that *you* shouldn't say that. That's part of what Jesus's teaching to "judge not that you be not judged" means. But isn't it a relief, after all, that Adolf Hitler and Jack the Ripper are dead? And yet if everyone were immortal, then Adolf Hitler and Jack the Ripper would be immortal, too. And if not everyone should be immortal, where is the line drawn, and who decides? I shudder even to think of a democratic tribunal of natural immortals deciding who ought to be stripped of their immortality for the comfort and convenience of everyone else.

Let's posit then, as an alternative to that horrible tribunal, that God must judge the Earth, securing the happiness of some good or good-ish subset of mankind by freeing them from the noxious company of the rest. Might we still ask God to provide something better for the rejects than Hell? But what would that be? "Better than Hell" might seem like a very low bar, but on the other hand, scriptural references to Hell are vague or symbolic, so it's not exactly clear. Hell seems to be a place of great misery and torment, so anything at all pleasant or happy that might be provided for souls unworthy to dwell with their fellows would seem to be an improvement and a mercy. But again, what could that be?

It's an ominous fact of life that people usually become harder to please as they get older. That oversimplifies, to be sure. Adults generally get bored less quickly, and they're able to enjoy many entertainments that are over children's heads. But children can delight in all sorts of trivial things whose value is baffling to adults. A piece of wood or a scrap of paper becomes a toy. Ten games are spun out in a single afternoon from a doll or two and other odds and ends, a blanket, a stick, a piece of furniture. Childhood is a wonderland. As we grow older, we learn how to enjoy new things, but we also forget how to enjoy or even to notice many things. Often, our overall capacity for wonder dims with age, in a way that we can't seem to help. If that happens to us in 70 years, what would we be like in eternity? I'm afraid the wicked, kept alive until eternity, would be very hard to entertain. How could they be kept from making themselves gradually more miserable through boredom?

If it's difficult to entertain some people in company, how much more so in solitude! Some people can enjoy solitude. But it's a little unusual for

someone to be contented alone for very long. We need one another's company. And again, the problem with the Adolf Hitlers and Jack the Rippers of the world, and probably, I'm sorry to say, with very, very many people who are less obviously and spectacularly guilty, is that they'll more or less annoy, bother, trouble, disgust and/or torment anyone they're with. They'll subtract from, rather than contribute to, the happiness of anyone whose company they keep. For the duration of this life, we Christians are commanded to endure it. If we can, we should probably try to silence even the wish to escape the company of many whom it is our duty to try to serve somehow. But if God wants to make as many people as possible perfectly happy in the end, then one of the prerequisites for that– and I know this sounds ugly but this is not the time to sacrifice honesty to diplomacy and soft words– is to get some other people out of the way. And so, in order to avoid burdening good people forever with the irksome society of the bad, God must condemn some people either to solitude, or else, perhaps worse, to the company of other people like themselves. The challenge God would face in trying to give some people a better fate than Hell is made that much more difficult, because He must deprive them of good company.

Might God at least give them a beautiful place to live? But what does beauty consist in? Usually beauty as we know it involves other things, with their own peculiar goodness, their own independent and fascinating existence, their own flourishing and vulnerability, things capable of being benefited or harmed. Birds are beautiful. Flowers are beautiful. What might wicked souls, condemned to exile from the human race, full of frustrated ambition or avarice or resentment or lust, do to the poor birds and flowers? Can that be risked? Perhaps they could be deprived of power. They could live in a beautiful world as ghostly spectators, able to look but not touch. Would that do any good? And even if it would, should even that be allowed? Should good creatures have to live in the company even of invisible, impotent wicked ghosts?

In some sense, at least. I don't think scripture is clear about whether damned souls maintain a conscious existence of some sort, or whether they are somehow annihilated. Is it even possible to annihilate a human soul? People's bodies can be killed, but can their thoughts be stopped? How would we know? But perhaps they can be. I don't feel equal to trying to discern which option, utter loneliness or permanent annihilation, would be kinder to them, more fitting for a loving God. I don't think scripture

encourages us to dwell much on the subject or try to figure it all out. Scripture wants us to fear Hell, not to understand it, so it deals in harrowing rumors and images and symbols that are indelibly memorable. I once read that if the sinners in Hell really were tormented by material flames, they would be glad of the distraction from the greater torment of remorse. I have no idea whether that's true. I hope I never find out, and you don't either.

Many Christians want to deny the existence of Hell, for the best of reasons. They have pity on the damned. They don't think a loving God would do that. Yet the principal source of the idea of Hell is Jesus's own words. For example, He says, "You are the salt of the earth. But if the salt loses its saltiness, how can it be made salty again? It is no longer good for anything, except to be thrown out and trampled underfoot" (Matthew 5:13). As salt brings out the flavor in all foods, it is the vocation of human beings to bring out the goodness in the manifold things of nature, planting gardens, taming beasts, and so on. The peculiar human power to do this is connected with reason and virtue. But through sin, people can become denatured, destitute of the peculiar flavor of humanity which brings out and enhances all the other flavors of nature. And there's nothing to be done about it. People can unravel, surrendering to addictions and grievances, until all that could give life meaning is out of their reach.

I'm afraid that Hell is rather easy to argue for. The road to Hell cuts with the grain of this world of ours, in which everything quickly or slowly decays and collapses, drifting towards destruction. By contrast, if we try to see how a human soul might be saved, might be preserved forever in a state of happiness, reason immediately seems to bar the way with insurmountable obstacles.

A simple way to put the problem is this. In eternal bliss, would we be free, or not? We can't imagine even existence, let alone happiness, without freedom. But if we're free, we can make mistakes, mess things up, destroy things, torment ourselves. If we're free to speak, we're free to offend, and to blaspheme. If we're free to make, we're free to damage. We know ourselves. Give us a perfect world, and we'd only wreck it.

Now this argument is strong. Yet there is an alternative argument which I think is at least plausible to hope for, even if no reasoning of ours could make us anything like justifiably certain that it is true. We know from experience that it is possible to form good habits. And those good habits can become very reliable features of our conduct. The principle applies in

many areas of life, from flushing the toilet to saying thank you, but maybe the best example is driving a car. Stay on the right side of the road. Stop at the stop sign. Stay between the lines. Don't exceed the speed limit. And many more. To a new driver, it's all pretty hard to remember, and can be rather terrifying because any mistake can bring disastrous consequences very fast. But good drivers are very reliable about doing these things, so much so that they can quite cease to take their own possible errors into account. They can cheerfully plan thousand-mile trips, knowing perfectly well they'll stay between the lines and stop at stop signs the whole way. As the saying goes, "practice makes perfect." There's another saying that "no one's perfect," and I think common sense would resolve the contradiction by saying that "practice makes perfect " is a slight exaggeration, and even the best drivers err occasionally. But more driving should make them keep getting better, and if you extrapolate to eternity, maybe an immortal human race would get to the point where it could rack up a trillion trillion trillion trillion drive miles without a single fender bender, in a perfect vehicular paradise. We can't be sure, but it's at least plausible.

Of course, we don't care about driving, but about the whole of human conduct. And it's much harder to be a perfect human being than a perfect driver. We want people who do only good, and who *want* only good, in all aspects of their lives. Only such people could inhabit paradise without spoiling it for themselves and others. And while experience does give us some warrant for believing that it's possible for a human being to attain perfect driving, experience doesn't support, but on the contrary thoroughly and emphatically contradicts, the idea that it's possible for a human being to attain moral perfection in general. That's why we must put our hope in the grace of God, and why death is still part of the cure for sin. But if we can attain some virtue, it stands to reason that we can attain all virtue, if we keep trying, and if God gives us the right opportunities. In the perfect vehicular paradise that I described above, driving would be a lot easier than it is now, since many of the worst hazards in driving result from the poor decisions of other drivers. Likewise, in a paradise inhabited by those who had passed many tests of virtue, virtue would be easier, since the temptations people face are often the result of other people's sins.

We must keep away, though, from the idea that we can earn paradise as a right, or fit ourselves for paradise through our own efforts alone. What is meant by the phrase "the grace of God," and how it is compatible with free

will, are hard questions, and I'm not sure I can say anything about them to an audience that I hope will include not only experienced Christians but also many seekers. Suffice it to say that God can work in us somehow, with our consent, without violating the prerogatives of free will or destroying the continuity that makes us ourselves, so that we "die to sin" (Romans 6:2) as St. Paul wrote, losing our sinful propensities, and can be resurrected and admitted to the presence of God once and for all, and live in bliss forever.

Two problems haunt me as I try to imagine the state of the saved soul: the past, and individual recognition.

If the saved souls will have become perfect, they will not always *have been* perfect. What are we to do with their pasts? If they are remembered, their past sins would mar Paradise. But if the sinful past is forgotten, how is it even *we* who will be saved? That is, why should we regard those future saved souls, even if some of them inhabit our own resurrected bodies, as *us*, if they know nothing about us as we are today? Memory is indispensable to personal identity. We forget much, but we must remember enough to give continuity to the stories of our lives. Otherwise we don't know who we are, and no other blessings could quite make up for that loss. How can Paradise let the past, with all its sorrows and sins, still be present somehow, remembered and honored, in the midst of eternal bliss?

And also, relatedly, what will distinguish us in Paradise from everyone else? What will be worth noticing about us? I mentioned CS Lewis's vision in which damned souls can enter Heaven as ghosts, and we understand why that's no good. But even if Paradise isn't a world where you can look but not touch, even if we can walk on the grass there, and pluck the fruits, I think we need more than that. We want to be recognized. We want to be welcomed *as ourselves*, valued *for ourselves*. We want to be desired, needed, not superfluous, not mere digits in an undistinguished crowd. But it's difficult enough to be free of sin so that we're fitted for Paradise. How can we hope to deserve to be honored there?

Start with this. There are a lot of different ways to tell a story. The storyteller has a thousand choices about which details to select and how to characterize people and events. Doubtless, there is much in your life that is vaguely dull or shameful, and that you would not like to be told. But might a brilliant storyteller think of a way to narrate the story of your life so that it would be more or less complete, recognizable and true, and at the same time not so much flattering, though maybe even that every now and then,

but interesting and satisfying? Might the Divine storyteller pull off that trick? Maybe you've had the experience of getting hired into a new job, hearing your colleagues get introduced, and feeling that you're lucky to be there and you're looking forward to working with them. For some, I think Judgment Day will be a little like that, though of course much better. We will hear our own stories told for the first time, concluding with the words, "Well done, thou good and faithful servant!" And then, we'll carry that story with us unto ages of ages, like a name, and we will not feel ashamed amidst the splendors of paradise. As the poet William Blake wrote: "Eternity is in love with the creations of time."

I hope that the readers will forgive the following undignified comparison for God. I think that God will forgive it. He does not stand on His own dignity. In the Bible, He compares Himself to a cuckolded husband and a thief in the night.

So think of yourself as a customer who just walked into a restaurant. In chapters 15 and 16, we met the waiter. It is Jesus and the Church. In this chapter, we decided what we want to order. It is to be perfected by grace, with the difficult consent of our own wills through humility to the process of being perfected, and then to have our stories told once and for all in such a way that we will not be ashamed in the company of the saints and angels, and to live forever in bliss among them, and to see the face of God.

So the next question is: can the Waiter deliver our order?

Keep your eyes on the prize, for the road ahead will get harrowing.

Chapter 18: The Promises of God

The metaphor with which I ended the last chapter served a certain purpose, but it needs correction. It pivoted us from one question, what we desire, which had just been settled, to another, whether we can possibly get it, which I proposed to study next. The metaphor expresses our need– we are *hungry*– and our hope that God will meet that need. But our position is much more helpless and desperate than that of a restaurant patron. So let's try another metaphor to make that point.

A huge hotel is burning. A thousand guests have been evacuated into the chilly night, and watch as the fire hoses spray thousands of gallons with little effect. Then there's a heartrending sound: a young child crying out, from deep within the hotel, doubtless in some still unburnt oasis amidst the general conflagration. The firefighters dash forward, hoping for a rescue, trying door after door, only to face deadly heat and collapsing structures everywhere they go.

Just then, the world's greatest acrobat appears on the scene. Scaling a tall tree at lightning speed, he surveys the flaming ruins, then comes down and tells his plan. He'll save the child, he says, if only the firemen can catapult him onto *that* wire, along which he'll walk to get to *that* turret... and so on, a mad escapade of leaps and ropes and climbs and balancing, weaving through the less burning areas to reach that fateful room... and then a similar way back, carrying the child. The firefighters are flabbergasted by the impossible proposal. Yet there's no other option and nothing to lose, except the acrobat's life, which he's apparently ready to risk. The fire chief finally says, "All right, good luck!"

The crowd watches in wonder and horror as the acrobat is hurled through the air, catches the wire and swings over it twice before standing erect and beginning his perilous tightrope walk above the leaping flames. As he passes out of sight, still alive so far against all odds, the child's mother, standing amidst the crowd after cursing herself for earlier accepting mistaken assurances that her child had been removed from the building, begins desperately Googling the acrobat's career for signs of whether this rash hero really has any hope of succeeding.

It is with something of the trepidation of that mother that I look into the biblical record and study the history of God's promises and their fulfillment.

For God has promised to save us, some of us at least, from the ruin to which we and the world are naturally, constantly, and it would seem inexorably tending, and to give us immortality and eternal bliss. But again, can He really do it? Can He carry out the rescue?

If the acrobat reaches the one unburnt room amidst the flames, he won't exactly ask the child's permission to rescue him. He knows what must be done. He may cajole, or give orders, depending on what will work. If the child, understandably afraid to leave the temporary safety, refuses to come, the acrobat might take him by force. And God's persuasions, too, can be forceful up to a point. If some things attach us to this world too much, God might send disasters to destroy those things. But in the end, we have to come freely. So it might be with the acrobat, too. There may come a time during the rescue when it's no use even to try to go forward carrying a struggling and resisting child. He would be certain to lose his balance and fall into the flames. The only hope is for the child to be docile and obedient. So it is with our salvation. We couldn't come close to achieving it on our own, and we can't even imagine how it could be done. We have to take it on faith that God knows how, and take orders from His Church. But we can prevent it. It can't be accomplished over our stubborn resistance, our clinging to pride and worldly pleasure and self-interest.

Much of the Bible is written in the future tense. It is a book about the future as much as it is a book about the past. God is constantly predicting and promising. Some of those promises were made very long ago, so we can try to see whether and how they were fulfilled. If salvation seems impossible, does God have a track record of doing what seems impossible?

You might wonder how God can face such long odds when He's omnipotent. But as I mentioned before, omnipotence is of limited value here, for force can't make a free being love. Somehow, He has to work with us and through us, even with our consent in some fashion, to achieve His ends, if His ends include saving our souls. That's where the acrobatics come in, the great skill and the great courage of God that is displayed nowhere in all creation so much as in the way He labors to save human souls. He has to weave all the stories through one another, and make as many of them as possible turn out well, even as the free characters in those stories constantly spoil them. He's playing all sorts of subtle games with your soul, and mine, to awaken us to hope, to open our eyes to our sins just enough to make us repent but not despair, and to give us opportunities to do good and to shine

with virtue, so that we'll have a story fit to tell in eternity. One of the more audacious moves He makes in this high-stakes game for souls is to predict the future.

How *can* God predict the future, if people are free? How, for example, could He make the promise to Abraham from which the long career of the "chosen people," the Jews, began?

“Go from your country, your people and your father’s household to the land I will show you," [said God to Abraham]. "I will make you into a great nation, and I will bless you; I will make your name great, and you will be a blessing. I will bless those who bless you, and whoever curses you I will curse; and all peoples on earth will be blessed through you.” (Genesis 12:1-3)

A very general problem with predicting the future, even when God's the one doing it, is that we have free will, and the future depends on our choices, choices that haven't taken place yet and aren't predetermined. It would seem to follow that the future isn't like a line that cannot be seen, but like a line that hasn't been drawn yet. It isn't there. It doesn't exist.

Some predictions of the future are still possible, based on inexorable laws of physics whose continued operation human choices, in the ordinary course of things, cannot change. God could also, presumably, promise to do things, and trust Himself to carry out those promises. But how can God promise that Abraham will be a blessing to all people on earth, when whether he will or not depends on Abraham's own choices? That's why the feat seems impossible.

When the book of Revelation says that the moon will turn red, the skies will roll up like a scroll, and finally heaven and earth will pass away, there’s no difficulty about God being able to do those things. Physics foresees a slow, sad end of the world, but that's mere extrapolation, and it stands to reason that the Being that began the universe with the Big Bang can end it in sudden, drastic ways, too, at the time of His choosing. Why should the end of the world be any more explicable by the principles of physics than the beginning was? It shouldn't really be surprising if the Second Law of Thermodynamics was only a phase, since as it's a one-directional movement, it can't have been going on forever. But as no amount of violent transformation of the material universe could mend the fabric of our souls and make *us* fit for Paradise, it would seem that no miracle external to

Abraham's own human free will could make him play the part that would bless all mankind in the end. So how is it that God could promise *that?*

The difficulty is greatly mitigated, though, by the vagueness of the promise. Abraham could become a blessing to all peoples in many different ways, and God might adjust the way that He fulfilled His promise based on the choices of Abraham and many others. The promise leaves God lots of room to improvise and adjust His plans to human choices. Like an acrobat, God does what would seem impossible, but if we examine it closely, we can make an educated guess why it isn't. Yet it still seems like a strange method of working. Why does He make promises that get Him entangled in the tortuous affairs of sinful mankind, and become so complicated and subtle to fulfill? Well, many people get hope and comfort from the promises of God. Others are prevented from doing evil by the threats of God, and a threat is just a different kind of promise. God's promises often influence human conduct for the better.

God's promises raise an old paradox about omnipotence, which can become a challenge to the faith. The skeptic asks: can God make a rock so heavy that He cannot lift it? If so, there is something that God can't do, namely, lift that rock. If not, there is again something that God can't do, namely, make that rock. That's flippant, but the same problem arises in a much more serious way whenever God creates a free being. Can God create a person that He can't control? Again, either answer would superficially refute God's omnipotence, since either He can't control that person or He can't make that person.

The challenge fails because it assumes intertemporal inconsistency in the will of God, as if God changes His mind. It is part of the perfection of God that He doesn't change His mind. God wouldn't desire today to lift a rock that yesterday He desired should never be lifted. God doesn't create people that He can't control so much as people that He *wills* not to control, and so His omnipotence is not proved self-contradictory. But there is still a striking kind of abdication about God creating freedom, and letting other people make the choices that were His prerogative. We are free by a kind of divine promise. He could control us, but He has forsworn that. Perhaps even the souls in Hell are secure in their freedom by divine promise, although alas, they only use that freedom to reject Him, to their own infinite cost. That terrible truth underscores how risky divine promises are. And yet God keeps making them, committing Himself in ever more tortuous and

complicated ways, until we can't imagine how the Acrobat can possibly get through the maze He has made for himself. But He has managed difficult things before.

During most of Abraham's lifetime, God's promise to him kept looking more and more foolish. He was promised descendants like the sands of the sea (Genesis 22:17), yet he passed into old age without even one son, his wife being barren. Later, his descendants became numerous, but they were slaves in Egypt. And then God made good part of His promise to Abraham through the dramatic events of Exodus, when Egypt was smitten with ten terrible plagues to compel Phaoroh to let the Hebrews go, and then the Red Sea opened to let the Hebrews through and closed again to swallow Phaoroh's chariots, and the Hebrews were led to the Promised Land. But even a thousand years after Abraham, though by that time his descendants had become a small nation, the promise about all peoples on Earth being blessed through him didn't seem any closer to being fulfilled. The Jews guarded their own mystery and did not proselytize. Only with the worldwide spread of the Christian Church was the promise to Abraham finally fulfilled.

Of Jesus's prophecies and promises, as once was true of God's promises to Abraham, some have proven prescient, while others seem by now long overdue, and a little embarrassing. When we read that Jesus compared the kingdom of heaven to a mustard seed, which begins as the smallest of seeds, but grows into a great tree with birds nesting in its branches, the figure seems like a wonderfully wise description of the growth of the Church. But when, after a series of what seemed to be descriptions of the end of the world, Jesus says, "Truly I tell you, this generation will certainly not pass away until all these things have happened" (Matthew 24:34), readers are left scratching their heads and wondering what went wrong. Everyone who heard those words has passed away, and the Second Coming hasn't happened yet. That prophecy seems to have led Christians during the lifetime of the apostles to expect that the Apocalypse was very imminent, in vain. Two thousand years later, we're still waiting, and Christian writers that I trust say that what Jesus really meant by this generation was "the generation of Christians," so Jesus was simply prophesying that Christianity would remain until his Second Coming. That's both important and (so far) true. Still, such apparent prophetic misses challenge Christians' faith as they

once challenged Abraham's. Let us take hope from the way God did finally fulfill His promise to Abraham after all.

I should mention in passing that people these days often underrate the evidence of fulfilled prophecy because their minds are affected by vague rumors emanating from learned biblical critics who claim that all the biblical prophecies were written *after* their fulfillment. By this account, there seems to have been a whole industry of forged prophecies, carrying on for centuries, writing poetic descriptions of events after they occurred and pretending that they had been written earlier, implying by this fraud that their accuracy had involved miraculous foresight, and then claiming prophetic authority for a few more predictions still in future. What the motive for such forgeries might be is never made very clear. And what credulity must be imputed to the hearers of such fake prophecies! One must suppose that they were told that an old prophetic document no one had heard of had suddenly come to light, immediately believed in its authenticity, and were impressed by the accuracy of its predictions to date. But wouldn't they get suspicious when the prophecies proved right only about events that had already occurred before the prophecy was discovered, and then proved wrong about everything after that? It takes a lot of degrees and letters after one's name to be able to spin such fanciful tales and not be laughed at. But the real proof of the genuineness of the prophecies is how often they seem to miss. Forgeries would have pseudo-foretold the past with more obvious accuracy. And yet the prophecies still prove stunningly wise uncannily often.

Genesis 1 and Revelation bookend the Bible, and since Genesis 1 looks back to the beginning of the world, and Revelation looks forward to its end, the Bible offers a kind of complete beginning-to-end story of the world, though obviously very selective and interspersed with other material. But at first glance, Revelation looks as useless as a guide to the future as Genesis 1 seems to be for the past. After 2,000 years, none of what it predicts seems to have happened, except what is completely par for the course, such as some wars and plagues and famines. That doesn’t *falsify* Revelation, strictly speaking, since there’s no sell-by date on its prophecies. But it might sow reasonable doubt.

Unlike in the past, Revelation now agrees with science on at least one thing: the world as we know it will end. A few other details may fit. For example, Revelation 6:12 predicts that the sun will turn black. Science

predicts that the sun will eventually run out of fuel and dramatically collapse, ultimately turning black. But for the most part, Revelation predicts a very different end of the world than science does. And if we had to choose between the end of the world foretold by science and that foretold by Revelation, the future predicted by Revelation is the one we should hope for, because, for all its horrors, it ends with happy saints rejoicing around the throne of God forever, whereas science predicts only universal death and darkness. But if there is a loving God, why should the future have so much catastrophe in store for us as Revelation describes? If mainstream scientific liberals see a godless world and predict a bright future of progress, at least for a while, why should Christians, after telling us that there is a loving God, go on to foretell a future full of plagues, famines, wars, invasions and cosmic destruction, all resulting from God's wrath? But all the optimistic futures sometimes foretold by scientific, secular liberals are temporary, for they will ultimately unravel in the face of growing entropy and end in the heat death of the universe. And that may justify the drama and horror of Revelation, for if the world is so firmly and inexorably on track for a descent into chaos, but God wants something different, it might take some very strong and extreme medicine to change the outcome.

As I said before, adversity can purge what is harmful and purify what is good. The proverbial refining fire purifies gold. It takes an irritating grain of sand to make an oyster make a pearl. Physicians cure cancer by exposing patients deliberately to noxious radiation, which hurts healthy cells but kills cancer cells. Presumably, if God will carry out such terrifying calamities as Revelation describes, it's because that's what's necessary to purge the world's evil and make what is left fit for eternal life. The book of Revelation describes, so to speak, the radiation therapy that will purge the cancer of evil from the world. For us to blame God for the calamities of Revelation and ask for any easier future is like a cancer patient blaming the doctor for prescribing radiation therapy and asking for an easier treatment. If the doctor says radiation therapy is the only hope of survival, the patient had better heed the advice

Which of the events in Revelation, when (or for skeptics, if) they occur, will seem obviously supernatural when they happen, and which will seem explicable within the framework of science and the laws of physics? Which of them will actually *be* miraculous, in the sense of violating the physical order of the universe and the laws of nature? That’s not a question that

preoccupied John. But it’s natural for a modern Christian to ask it, and I don’t think it does any harm. There might at least be a mnemonic value in trying to guess. It seems to me that many of the early events in Revelation could easily be, or seem, merely natural, e.g., a conqueror, wars, mass death, whereas near the end of Revelation, it’s clear that a complete disruption of the laws of nature is taking place. In between, there are some events that might *seem* supernatural, while actually having natural causes consistent with the ordinary laws of physics.

For example, at the end of chapter 6, when the sky is rolled up like a scroll, the sun becomes black and the moon like blood and stars will fall, and the mountains and islands are moved out of their places, that seems like a breakdown in the natural order. Revelation suggests that it will strike people as supernatural at the time, for they will cry out to the mountains to fall on them and “hide us from the face of Him Who sits on the throne and from the wrath of the Lamb" (Revelation 6:16). And yet I wonder if all of this might be a vivid description of what a catastrophic shower of giant asteroids, on the order of the one that killed the dinosaurs, will look like. We're still early in the book of Revelation at this point, so if the book is interpreted as chronologically organized, this isn't the final calamity. Later mentions of things like cities and merchandise suggest that civilization survives. And we are told shortly afterwards of another plague in which just a third of the sun is struck, and a third of the stars fall. So it seems there are still stars in the sky, and the sun is still shining, and the cosmic disturbances in chapter 6 were not the end of the world as we know it. On the other hand, perhaps Revelation isn’t being chronological, and later chapters are circling back and filling things in. It's hard to say.

Again, in chapter 9, the events start to sound pretty supernatural. A star falls from heaven and is given "the key to the bottomless pit," from which comes smoke and a plague of "locusts," which, however, are shaped like "horses prepared for battle," with faces like men, hair like women's hair, and tails like scorpions. But could someone take this description as the point of departure for a sci-fi novel, and tell of a realistic future, fully compatible with the laws of physics, of which the plague of locusts called forth by the fifth trumpet in Revelation would be a good description? Sure they could. It could be a description of an invasion by extraterrestrial aliens, or some kind of monstrous genetically modified organisms created in military laboratories, or futuristic war machines. In general, I think most of

the calamities in Revelation are more or less possible to physics, though some, such as the sea turning to blood, might have to be interpreted with some poetic liberty to be scientifically explicable. What is impossible to physics are the blessings in Revelation. Physics can allow war and plague and cosmic destruction, but it has no room for a new heaven and a new earth, or for the saints rejoicing forever around the throne of God.

I'd better give a whirlwind tour of Revelation just so readers can get a sense for how crowded the book is with spectacular events and disasters. When the stars fall and the sun turns black, that is the sixth of seven "seals," and the locusts are the fifth of seven "trumpets," while later there are seven "bowls" of the wrath of God. These are not just odd names for these series of calamities, but the heavenly events that trigger the earthly catastrophes. The first series of disasters occurs as the Lamb, that is, Jesus, opens the seals on a certain scroll. The second series occurs as angels blow trumpets. And the third series occurs as angels pour out bowls of the wrath of God.

The "seals" cause: first, a conqueror; second, conflict among men; third, famine; fourth, widespread death; fifth, the cry of the martyrs; sixth, the falling stars and other cosmic disturbances, as discussed above. Then, after a glimpse of the "sealing" of righteous Israelites and the rejoicing of saints of many nations around the throne of God, the seventh seal is opened, and the long-awaited scroll can be read... yet we are told nothing of its contents except that "there was silence in heaven for about half an hour."

The "trumpets" cause: first, fire that kills a third of the trees and all the grass; second, a burning mountain that turns a third of the sea to blood and destroys a third of aquatic life and a third of the ships; third, a star that falls and turns a third of the rivers and streams bitter, killing many men; fourth, a third of the sun, moon, and stars becoming dark; fifth, as described above, the locusts from the bottomless pit; sixth, an army of two hundred million "horsemen," who seem to breathe fire and have tails like serpents with heads that do harm, that ravages the Earth. Then, after an interlude in which John is given a little book by an angel, and after two prophets preach on Earth, and are killed by "the beast that ascends out of the bottomless pit" (Revelation 11:7) and then resurrected, the seventh trumpet sounds, and it is proclaimed that "the kingdoms of this world have become the kingdoms of our Lord and of his Christ, and He shall reign forever and ever!" (Revelation 11:15)

Later on, the "bowls" cause: first, loathsome sores; second, the sea, all of it this time, turning to blood; third, springs and rivers turning to blood; fourth, men being scorched with great heat; fifth, a flood of darkness in which men "gnaw their tongues because of the pain"; sixth, the drying up of the Euphrates, and three unclean spirits in the form of frogs; and seventh, a loud voice from Heaven announcing "It is done!" followed by lightning and hail, and "every island fled away, and the mountains were not found" (Revelation 16:20).

In the midst of this, there emerges a theme of war by a great enemy against the believers. In chapter 12, we meet a "woman," traditionally taken to signify the Church, though also very reminiscent of the Virgin Mary, and a "dragon," representing Satan. The woman gives birth to a "male Child, who was to rule all nations with a rod of iron" (Revelation 12:5), that is, Jesus, whom the dragon wants to devour, so she flees into the wilderness. This description of the Church as a woman giving birth to Christ is consistent with Christians' belief that the bread and wine in communion become the body and blood of Christ. The dragon persecutes the woman and tries to drown her, but she escapes, so he makes war on her offspring. Then there comes a "beast" from the sea, who gets his authority from the dragon and causes men to worship him, and he makes war on the saints and overcomes them. There follows another "beast" from the earth, who causes men to worship the first beast, and perform signs and wonders. Revelation 13:17 contains a detail about his rule that seems remarkably plausible for our day, reminiscent of Communist China's "social credit" system or "cancel culture" in the West: "no one may buy or sell except one who has the mark or name of the beast."

By the end of chapter 13, Satan seems to be winning. We are even told that "it was granted to" the beast from the sea "to make war on the saints and overcome them" (Revelation 13:7), and in general, nowhere in the Bible does God promise Christians victory in war. But there follows in chapter 14 a glimpse of the Lamb on Mount Zion with 144,000 of the righteous of Israel, seeming somehow untouched by the "dragon" and the "beasts" who have so much power and deceive so many. Through much of Revelation, the saints seem to lead a hidden, irrelevant life, mysteriously protected as earthly affairs go from bad to worse. Even being made war upon and overcome doesn't seem to put an end to them. There's an aspect of this that's true to life even today, for so often the life of the Church seems to

worldly people marginal, antiquated and irrelevant, to the point where its existence can be safely forgotten, yet if you turn aside from the world and penetrate that life, you find a joy and triumph and contentment there that is indifferent to its own irrelevance to the world.

Later, we meet a different kind of enemy, "the great harlot who sits on many waters, with whom the kings of the earth committed fornication" (Revelation 17:1-2), not a ruler but a corrupter, who in turn is identified with "Babylon," full of wealth and merchandise, but tainted with blood. But by that time, the tide seems to be turning. In chapter 14, angels began to "reap the Earth's harvest," echoing Jesus's parable about the kingdom of Heaven, a sign of the end of the age, and grapes are thrown into "the great winepress of the wrath of God." Then in chapters 18 and 19, the fall of "Babylon" is, oddly enough, foretold very eloquently and at great length, including the lamentations of the kings of the earth who "fornicated" with her, and God's people are exhorted to come out of it, yet never consummated. We are never exactly told of Babylon's fall actually taking place. Perhaps that event is lost sight of amidst the battle that follows, when "heaven opens" and Christ on "a white horse" comes forth, followed by "the armies in heaven," and the beast and the kings of the earth make war on him, but the beast and his false prophet are captured and thrown into a lake of fire. Is it possible that Babylon, the playground of the worldlings, never exactly falls, but is swept into an irrelevant corner to decay forever? It doesn't matter. The point is that the saints are urged: "Come out of her, my people, so that you will not share in her sins, so that you will not receive any of her plagues" (Revelation 18:4).

In the course of these events, it seems that the supernatural world, both good and evil, is gradually being revealed and becoming more visible. The two prophets who are resurrected in chapter 11 are taken up to heaven in a cloud, and unlike Jesus, who seems to have been witnessed after the Resurrection by, and ascended in the presence of, His faithful disciples only, of these prophets' ascension we are told that "their enemies saw them" after the resurrection and during their ascension. In chapter 12, "a great sign appeared in heaven." In chapter 14 there is the "reaping" of the Earth, and in chapter 16, the islands "flee away" and the mountains are "not found." All this will presumably be rather discombobulating for those who expected the routines of nature to continue indefinitely. And then in chapter 20, heaven and earth flee away from the great white throne of God. It seems as

if the workings of Heaven and Hell in this world will become steadily more obvious and visible in the course of all these events, while the merely natural order that scientific materialists take for the whole of reality will be steadily eclipsed.

In rushing through Revelation like this, of course, I've had to omit much that is evidently significant, and summarize things I hardly understand, but I ought to mention that there is an impressive coherence of Revelation with the rest of scripture. In many ways, it resembles Exodus, with all its plagues, with good people escaping into the wilderness, with wicked monarchs ruling the Earth but being defeated in the end by the chosen people of God. Revelation puts an odd emphasis on *numbers*, splashing the reader with moments of weird numerical precision amidst the sweeping grandiosity of the story: forty-two, three-and-a-half, one thousand two hundred and sixty. These are often allusive, echoing other parts of scripture. For example, the fact that the seals and the trumpets and the bows all number seven, the number of "days" in creation, give a kind of poetic pattern to the Bible with Revelation as a fitting climax. There are also many points of agreement between Revelation and Jesus's own prophecies. For example, Jesus tells his disciples to be glad that their names are written in heaven, while Revelation describes the last judgment as the moment when it is discovered whose names have been written in the Book of Life. Again, the resurrection described in Revelation was foretold before by the prophet Ezekiel, and was already a widespread belief among the Jews by the time of Jesus. There are many more examples. Revelation is a fitting end to the Bible, thematically consistent with it and giving it completeness.

If we believe that God is love, all these disasters must serve the purposes of that love. God wants to save as many people as possible, and presumably all the disasters help with that. We've seen already how adversity can be such a school of virtue. It seems as if God starts with the low-hanging fruit, saving first those who are easiest to save, and protects them in heaven or in the wilderness, or in the midst of civilization by a "seal" that protects them from evil. Later, the conversions become more difficult. We are told after the sixth trumpet, and the army of two hundred million horsemen, that "the rest of mankind, who were not killed by these plagues, did not repent of the works of their hands, [and continued to] worship demons, and idols of gold, silver, brass, stone, and wood, which can neither see nor hear nor walk" (Revelation 9:20). Well, what was the

point then? We are rarely if ever told that anyone is converted. But I have to suppose that some are being converted during these trials, turning to God in panic, or looking to Heaven for meaning and hope when earthly addictions or honors are taken away, and joining the ranks of the saints. For the Last Judgment, when the books are opened and the names in the Book of Life are revealed, is still to come.

By the next-to-last chapter of Revelation, we are told that John saw "a new heaven and a new earth, for the first heaven and earth had passed away" (Revelation 21:1). When did that happen? It was easy to miss that when it occurred a few verses before, in Revelation 20:11, when John "saw a great white throne and Him who sat on it, from whom heaven and earth fled away. And there was found no place for them." It seems at first merely like one of those strange details of which Revelation is full, which the mind may skip over or treat as mere flourishes because their significance is too overwhelming to be understood. But it seems that as the Last Judgment is taking place, as the dead are brought forth from the seas and from Hades, as the books are opened and they are judged by their works, the heaven and earth that we know, already battered and changed perhaps beyond recognition by so many calamities, will, in the background of the Last Judgment, be quietly passing away once and for all, and a new heaven and earth being created. Perhaps, like John, we won't even notice it as it happens, so enthralled will our attention be by the opening of the books of history and the Book of Life, and the recounting of everything that has happened, the full truth of history and of every human story, in a way that makes clear what shall be harvested and remembered and honored into eternity, and what shall be finally condemned and forgotten.

Now, I should mention here that there is a long tradition of interpreting Revelation symbolically or allegorically. For example, when the Sun goes dark in chapter 6, Bede, the 8th century English saint, comments that "it is as if the power of Christ were hidden, or His doctrine temporarily obscured, when the servants of Antichrist are brought to attack the servants of Christ." But I think we need this new heaven and new earth to be solidly real, a physical fact, for the heaven and earth that we know are pervaded by mortality, decay, unraveling, and the dread curse of the Second Law of Thermodynamics, doomed to ultimate dissolution. Some better future is needed than the heat death of the universe. Revelation has one to offer. This entropy-ridden, mortal, decaying heaven and earth that we know will flee

away before the throne of God, but the saved saints will still be there, and for them a new heaven and a new earth will be made, and they will enter the eternal city, with streets of gold and gates of many kinds of precious stone, where there will be no temple, for all is holy, and no sun or moon, for the Lord will be its light. And there (but now I suppose we are probably dealing in symbols again) a river of the water of life flows from the throne of God, and on its banks the tree of life, ever bearing fruit, whose leaves are for the healing of the nations.

Now all this mighty train of events began when, in chapter 5, Jesus began to open the seals on a scroll with seven seals that was held in the right hand of God. Seven seals! That's very mysterious! Before the scroll begins to be opened, there is a moment of suspense, because "no one in heaven or on earth or under the earth was able to open the scroll, or to look at it" (Revelation 5:3). And John writes that "I wept, because no one was found worthy to open the scroll" (Revelation 5:4). But then one is found worthy: Jesus, figuratively described here as both "the Lion of Judah" and "a Lamb, as though it had been slain." What follows reminds me a little of the Greek myth of Pandora's box, for John had wanted the scroll to be opened so much that he wept for it, yet immediately, as the seals begin to be opened, the disasters begin to befall.

The faint-hearted might suppose that, as the lesson of Pandora is not to let curiosity make you open the box, so the takeaway in Revelation is: for heaven's sake, whatever you do, leave that scroll alone! Don't open it! Silence, John, your foolish curiosity, and let well enough, or even ill enough, alone! What would you do? Would you wish for the scroll to be opened, and the terrifying transformation of the world to begin? Would you be so eager for it as to weep when, for a moment, no one was found worthy? Would you settle for this beautiful, decaying world, and enjoy it while it lasts, rather than ask for the apocalypse to be set in motion?

I think all of us have moments when we would rather settle for the old routines than take the great adventure. Let the world slowly run down if it must. We'll keep on making the best of what's left while we can, and then dissolve away with the dissolving world. It's a little sad, but never mind. We'll make do. We'll settle. We'll lower our expectations a little, then lower them again. Try not to think about death. Distract yourself. Eat, drink, and be merry as best you can, for sooner or later, we'll all die. Take the easy, broad, descending road, for even if it leads only to destruction, the journey

there is long yet. And how do we know that there is anything better to be had?

But I think we all have other moments, or at least we have had them, sometime or other, when voices from beyond the world call us, call us *up*, onto wild heights, and our hearts dance, and our imaginations fly, and we *love*, and we are brave, and we would dare any and every adventure for the sake of something that we cannot name, but that we glimpse in a sunset or a mountain or a scene of battlefield heroism or even of maternal grief. We are full of a feeling that descends on us like a crown. What we want is as mysterious to us as a scroll with seven seals in the right hand of God, and we are not worthy to open it. But we desire it, and even if we desire almost without hope, the desire is sweet. We feel, as the poet Wordsworth said, "intimations of immortality," a divine discontent with the routines of decay, and the sad, prudent economy of this world. And then we would choose the way that leads to life, no matter how narrow and difficult it might be. We would weep if there were found no one worthy to open the scroll, and we would pay the price of apocalypse to see the face of God.

When the acrobat told the fire chief how he would rescue the child from the burning hotel, his plan seemed mad. But he had done amazing feats before. And there was no other choice. God has told us, in the Bible, in Revelation, how He plans to rescue us from this disintegrating world, and His plans seem mad. But He has fulfilled many amazing promises before. And what do we have to lose? Who else offers any hope to escape the curse of death? So let's put our faith in him, as well as we can, and hope for the best.

And what are we putting out faith in? At the heart of God's desperate, inscrutable plan to save the world, and us, from the labyrinthine ruin into which we are inexorably descending, was the Incarnation. God became man. How? Why? We'll never fully understand, but we can do our best. To that we turn next.

Chapter 19: Why God Became Man

Long ago in chapter 3, we saw why the resurrection of Jesus is unique in being a definite, factual event, which happened or didn't, with plenty of evidence, about which people nonetheless diametrically disagree. The evidence for it is overwhelming, but it would be an exception to the laws of nature, which we have reason to consider very reliable, and in that sense the reason to disbelieve in it is also strong.

In chapter 6 and chapter 15, we touched on a reason why a strong prior belief in universal human mortality should give way in Jesus's case to an initial doubt or hesitancy that would tip the balance in favor of the resurrection. Jesus was clearly a morally unique individual. His uniqueness consists, upon reflection, in courage, wisdom, and love in a uniquely high degree, unmarred by any self-interest or passion or sin. In short, He was sinless, perfect, in a way that sets Him apart from all mankind. And where there is one oddity, other oddities become less unlikely. If one generalization about human beings, sin, fails in the case of Jesus, it's at least a little likelier that another generalization about human beings, mortality, also fails. And if you admit only slightly reduced prior certainty about the permanence of Jesus's death, then the consistent testimony of numerous disinterested eyewitnesses to the resurrection, with nothing to gain but persecution and death for their testimony, the boldness and persuasiveness of the apostles, the growth and zeal of the early Church, the rich documentary evidence going back almost to the lifetimes of the apostles, and so forth, are more than enough to warrant confident belief.

But the resurrection, if accepted, must throw any non-Christian worldview into disarray. All of us rely heavily on the day-to-day consistency of the laws of nature. If that can be overridden, what can we trust? How do we make sense of it all? The mind must keep searching for consistency, coherence, reflective equilibrium. And although there's no easy chain of inference from the resurrection of Jesus to the whole Christian worldview, yet once the resurrection has been admitted, there is no reflective equilibrium to be found short of the whole Christian worldview. The resurrection of Jesus must continue to seem like a weird exception until it is revealed to be the central event of all history.

As we try to make sense of the resurrection, we're driven to rediscover old mysteries and old discontents, and we gradually realize how high the stakes are, namely, nothing less than whether it was worthwhile for the world to exist at all. Without the resurrection of Jesus, the best we could do is try to convince ourselves that although everything's doomed to disintegrate, it had a good run, so that's okay. But it won't do! There are so many things to love about this world. For all of them to go away would be infinitely sad. And yet the world is so vitiated, so prone to self-destruction, that unless some inconceivable change is wrought in it, it can't do otherwise. Disintegration, dissolution, the slow triumph of chaos, entropy, the heat death of the universe, should win out in the end by all the laws of history. But there's something awry, counter-intuitive and strange about that conclusion. We rebel against it. And only in the Incarnation do we find a strangeness fit to answer and disarm the strangeness of Creation and Fall.

Contemplate for a moment the mystery that a certain baby, a certain carpenter's son (for all the world knew), was God, who made the heavens and the earth. That God needed the milk from Mary's breast. That God felt hunger and thirst, the heat of the sun and the chill of the night, and pulled a blanket over him to stay warm as He slept. It began as a very small event. Very few, beyond the shepherds and the Magi, knew on Christmas night that the great change in the world was beginning. Since then, many have heard, and nations and civilizations have been changed by the message, yet it is still a small event in a way, which can almost be forgotten amidst the hubbub of history. Almost, but not quite. It will give the mind no peace. If Revelation is true, what happened at Bethlehem is destined to become much more important, even as God's promise to Abraham became more important when it bore fruit in the plagues of Egypt and the liberation of the Hebrews from Pharaoh. For now, we have a choice. We can ignore, belittle, try to convince ourselves by inadequate dismissals, change the subject. Or we can let the evidence lead us where it will. And it leads to the Church.

There's a kind of *prima facie* impossibility about the Incarnation, which must be appreciated in order to do it justice. In the last chapter, I raised a paradox about divine omnipotence by asking whether God can make a rock so heavy that He can't lift it. Well, in a way, He did. When God was a baby in the stable at Bethlehem, all the rocks on Earth were too heavy for Him to lift. But how is it consistent with the omnipotence of God to be a man, when it is so essential to human nature to be weak, limited, and full of

needs? Was Jesus omnipotent? If He wasn't, how could He be God? If He was, how could He be a man? In what sense could He inhabit a particular body, if by His omnipotence, He could control all of nature? And the Gospel narrative doesn't exactly answer these questions, yet it somehow disarms them. We see His omnipotence when He says "Peace, be still," and the stormy winds and waves immediately grow calm. We see His human limitations when He asks "Who touched me?" or weeps for Lazarus, or prays in Gethsemane that the cup might be taken from Him. And yet somehow He remains a coherent character, and sends our questions back to the drawing board.

In fact, the Incarnation challenged the Jewish conception of God, and compelled Christian theologians over the next few centuries to work out the new ideas of the Trinity. Christians believe that God is not merely one, but three in one: three persons, comprising one deity. There is God the Father, God the Son, and God the Holy Spirit. The Son is begotten by the Father. The Holy Spirit "proceeds" from the Father. Theologians have usually held that this truth cannot be discovered by reason. It was learned by experience when the apostles met Jesus, and found Him to be God, yet not the whole of God, for He could still pray to the Father, and say that he was sent by the Father. And after Jesus's Ascension, the Holy Spirit came upon them and filled them at Pentecost, and gave them wisdom and energy to spread the gospel through the world, and that too was God, but was not the same as either Christ the Son, or God the Father.

Once they had discovered the Trinity by experience, they saw the evidence for it throughout the Old Testament. In Genesis 1:26, we hear God saying, "Let us make man in our own image." Who is He talking to? Here we glimpse community in the heart of God. In the prophecy of Joel, God says, "I will pour out My Spirit on all flesh" (Joel 2:28), as if His Spirit is something separate from Himself. In Proverbs 8, the Wisdom of God speaks in the first person, and claims to have been begotten before the world began, present with God from the beginning, and a co-creator of the world. Thinking hard about passages like these and the life of Jesus, the early Church wrote and debated and prayed, until in the seven great Church councils of the 4th through 8th centuries, they formulated creeds and doctrines encapsulating the best that they could discern about the nature of God and the Incarnation. The doctrines are meant to fend off misunderstandings and to guard a mystery. They are not meant to dispel the

mystery. If you read about Jesus, and think hard, and try to imagine, it will leave you wondering. Wonder and puzzle as much as you like! Just be careful about arriving at any firm conclusions that put the matter to rest. If you do that, you'll probably get it wrong. As we see all things by the light of the sun yet cannot safely look at the sun, so we we can reason brilliantly about the world by the light that Jesus has given us, but trying too hard to reason about Jesus Himself tends to make us go blind.

It's not a unique case. We have met many mysteries already in this book. What are patterns? How is it that conscience and instinct operate in your mind and soul at the same time, often giving you conflicting desires, and yet you are still one person? How do ideas relate to things? How do you have reasons for your choices, and you can recount those reasons, and yet you were still free, and might have done differently? Mysteries all. Philosophers who think they have settled these old questions usually only make fools of themselves. So with the nature of Jesus. But we can know things without understanding them. We shouldn't reason away our knowledge. We shouldn't deny what we know just because we can't always articulate and justify it in logical terms. We might have reasoned, a little tentatively, that it was impossible for God to be a man, but then we meet Jesus, and realize we never knew what God or man, those old abstractions, meant, compared to the way we begin to know His character. And in it we meet both humanity perfected and God revealed. There's a difference between knowing a person and understanding an argument, and in this case it's more important to know the Person.

One benefit of the Incarnation that is not usually mentioned is that it spared us from the temptation of envying God. Before Jesus, people believed in gods as blessed, immortal beings with strange powers, and they often envied them. Gods were rich in all the things that people wanted, like strength and prosperity and beauty and above all length of life, and they suffered few if any of the burdens that blight human life. Sometimes they might suffer thwarted love, but never poverty, toil, hunger, pain, or death. And so men envied the gods. But Jesus suffered all of those things. He suffered more than any of us. Who would be tempted to envy God now, after the scoffing, the angry crowds, the scourging, the crown of thorns, the abandonment by His disciples and the betrayal of Peter, the nails through His hands and feet, and the cry from the cross: "My God, my God, why hast Thou forsaken me?" (Matthew 25:46) Though God is all-powerful and

praised by billions and will live forever, He will never again tempt us to the sin of envy.

More importantly, through His life and death as a man, God proved that He loved us. In doing so, He fulfilled a long-cherished hope of the human race, and refuted an agonizing doubt. The idea that God loves men didn't begin with Jesus. The Old Testament is full of it, but I came to appreciate how widespread is the human need to be loved by God from *The Iliad*. Near the end of that famous epic that was a kind of Bible for the Greeks, after the death of Hector, when the fall of Troy to its furious Greek enemies is only a matter of time, the goddess of the rainbow, Iris, appears to King Priam. The king has no hope left for this life or the next. The gods have sided with his enemies. He has lost his worthiest and most beloved son. No one in *The Iliad* believes in any afterlife for mortal men except the senseless dark of Hades. And yet Iris addresses him with these astonishing words: "Fear not, O father! no ill news I bear; From Jove I come, Jove makes thee still his care." And then she tells him how he may, with divine help, recover the body of Hector. And he trusts, and obeys.

So much do men need to be loved by God that even when corrupt myths have poisoned their image of heaven to the point where they see in it only passionate quarreling and petty intrigue of a pantheon of adulterers, when when they have received from it nothing but doom, yet the merest rumor that a god may care for them gives hope amidst the most irreparable disaster. Surely it was the hope of being loved by God, and not only fear of the gods or hope of earthly rewards, that made men, through so many generations, deep into the pagan past, keep bringing their gifts to the altar and composing hymns of praise. But it was hope, not confidence. Are we loved by God? We might well doubt, and almost despair. We live in a beautiful world that God made, but did He make it for us? We don’t always feel very at home in it. Nature is beautiful but often hostile and dangerous. Why should He love us, weak and sinful as we are? How could He? The fact that we are doomed to die would almost seem to settle the question in the negative. The curse of death doesn't seem like a sign that God loves us. But we can't help hoping. And then, on the cross, God proved His love for mankind more emphatically than we could have dreamed of. So let's live up to it by loving Him back!

To believe that God loves you improves the likelihood of achieving salvation, because a loving God will surely help you, but even more, it adds

something to the motive for seeking salvation. We needn't fear that we will be admitted to heaven reluctantly, like an unwanted guest at a party included for the sake of form. We'll be welcomed with open arms. It's possible, up to a point, to seek salvation from a kind of self-interest. It sounds merrier to rejoice around the throne of God than to be banished into eternal darkness. But it's so difficult that we might despair. If God loves us, the expectation of His help can ward off despair. But the revelation of God's love also means that it isn't self-interest alone that can goad us onwards in the struggle for salvation. We can do it from a kind of justice to God, or even, dare I say it, a kind of pity, like that a beautiful woman might feel for an honest, lovesick suitor. If only we can get sin out of the way, God will rejoice in our company. Let us not deprive Him of that joy! Don't make Him grieve for the loss of you! Think of what He suffered on the cross for your sake.

When God became man, it was settled once and for all that the human race will never be erased and forgotten as a mere blunder or botched project, for human nature was given a place in the being of God Himself. The Son of God took a human body. He lived among us, and taught us, and shared our poverty and toil and pain, and died to save us, and then brought His hard-won human nature with Him into heaven. We go to Him as members of a race with which heaven is now already familiar, strange as that may be in light of humanity's sad and bloodstained history. So do not hold back. Do not be afraid. Go and join Him there!

Another reason why God's Incarnation as a man helped Him to save mankind is that Jesus set the perfect moral example of how human beings ought to live. It wasn't available before, as we saw in chapter 15. A good example can inspire and teach. It's easier to discern the right thing to do when we can look to the example of Jesus. When we know the right thing to do but lack the willpower, thinking of Jesus can give us courage.

Yet it's usually hard to apply the example of Jesus to our own lives. Indeed, the part of Jesus's life that might have supplied the best moral examples for us is the part we know nothing about. For thirty years, Jesus seems to have lived as an ordinary man. His hometown rejected Him, more or less, because they saw Him was just an ordinary carpenter's son (Matthew 13:55-57). They don't bring up any sins against Him, and tradition affirms that He led a sinless life, yet it seems nonetheless to have been an unexceptional, undistinguished life, and just for that reason, might

have been more suitable for emulation by you and me. But tradition has remembered almost nothing about it. And during His ministry, His whole way of life and all His actions are so distinctive that most people's lives can bear very little resemblance to them. There's an occasional fad for using the question "What would Jesus do?" to prompt good behavior, but I'm not sure that's really very helpful. How would we know what Jesus would do in our place? His life was so different from ours.

Also, why would God have to become a man in order to set us a perfect moral example? Can't we men do well by imitating the conduct of God? Indeed, we can, and we do so very often. God is a great artist, whose work we see displayed in meadows dancing in spring breezes, in forests set ablaze with all the colors of autumn, in sunrises and sunsets and stars and all the pageantry of the heavens. And we men often imitate God by being artists, by drawing or writing beautiful things, and if we do it in all humility and in a spirit of thanks and praise, we please God by doing so. Jesus urged men to love their enemies so as to imitate the conduct of God. "I tell you, love your enemies and pray for those who persecute you, that you may be children of your Father in heaven. He causes His sun to rise on the evil and the good, and sends rain on the righteous and the unrighteous" (Matthew 5:44-45). That is, God loves His enemies by making the sun shine and the nourishing rain to fall even on the wicked, and we should imitate God by turning our good will and generosity on the wicked and the good alike.

But where the example of Jesus becomes indispensable is when we face moral challenges that God, in His own nature, never has to face, and could only experience when He became a man. God, as God, never has to feel the pain of being rejected, scorned, scoffed at, and hated by his fellows, by those whose friendship and respect all his natural instincts make him desire, and who have the power to hurt him. For we humans want to be approved of by our fellow men. "Peer pressure" is one of the greatest temptations to wrongdoing. But sometimes it is our duty to estrange ourselves from the crowd and to become enemies to family and friends, kin and country, for the sake of God, and/or for the sake of social justice and truth. More than that, we have to stand firm in the face of pain, sometimes in the face of torture, even unto death. For such trials, God in heaven can set us no example to follow. God had to come to Earth and live as a man to do that.

Also, Jesus sets us the perfect example of prayer in a way that God in heaven never could. We see Him going up to a mountain to spend all night

in prayer (Luke 6:12). And we see Him praying for one thing yet being open to the will of God to tell Him something else: "My Father, if it is possible, may this cup be taken from me. Yet not as I will, but as You will" (Matthew 26:39). How can Jesus pray to God, when Jesus *is* God? Well, for one thing, there are three persons in the Trinity, and they can talk to each other. But also, the human nature of Jesus can propose things to divinity, and then accept divine decrees, whether or not they fulfill what was requested. So He did in Gethsemane. And because Jesus was a man and did as men should do, we can imitate Jesus's perfect submission to the will of God.

Another reason why the Incarnation helped to save mankind is that it led to the birth of a community which was not founded on sin. Men are born for community and for love. A life completely alone is hardly conceivable, and a life reduced to loneliness is a life in exile, terribly impoverished and incomplete. The holy hermits of Christianity are the exception that proves the rule, for they still need to partake of Holy Communion at the hands of a priest, and they have the companionship of God in the wilderness. But even so, the hermit's life is a rare vocation, and usually seems to have a penitential character. And even very devout Christians often find it hard to feel much appeal in the lives of hermit saints. We need community. But before Christianity and the Church, every community was tainted with social sin, complicity in which was impossible to avoid.

I introduced the idea of social sin in chapter 15, as one of the reasons why no one before Jesus or outside Christianity has ever achieved moral perfection. The idea of social sin is rather subtle, and can be opaque to Westerners because of a strong individualistic strain in Western culture. Still, the moral position of white Americans with respect to black Americans is a well-known example which can be illustrative of a broader phenomenon. White Americans treated black Americans terribly in the past, first by holding them in slavery, then through racist laws that segregated them from mainstream life and treated them as inferior people. Then the racist laws were abolished, and black Americans enjoyed legal equality. Socially, too, the casual racism of past generations became stigmatized and was rarely heard openly. Most white Americans today have never known a legal regime that treated blacks as inferior, and many have not only never personally participated in white racism, but have had little or no personal

exposure to white racism by others. Nevertheless, most educated white Americans accept that it's their peculiar moral duty to remember and to some extent resist and repent of the past sins of people like themselves. If white Americans today have to worry about avoiding complicity in social sin, how much more difficult that would have been for the vast majority of historical mankind!

Most people have been expected by their communities to hate enemy peoples, to approve of wicked and oppressive rulers and ruling classes, to fight in or at least to cheer for unjust wars, and to pretend to believe in, and to worship, false, unworthy, wicked gods. Such social sin was woven through all moral instruction, so that people would feel their adherence to the moral law was all mixed up with their submission to bad kings and their worship of wicked gods. Moral respectability meant not stealing the fruits of a neighbor's labor, and also, paying respect to a wicked, plundering king. It meant not seducing a neighbor's wife, and also, burning incense to an image of a god who in the official legends had seduced other men's wives. The authorities who were invoked in teaching morality embodied immorality, in both obvious and subtle ways. By such moral confusions, men got hopelessly lost in the labyrinths of sin, until Jesus showed the way out, and marked it with the cross, and left the Church behind as a guide.

Christianity certainly did not abolish social sin. The best that can be said is that it has fairly steadily, though more at some times than others, struggled against it, and achieved a kind of cumulative amelioration of society, so that the world's happiest and most thriving societies today are more ethical in most ways than any pre-Christian societies and than most Christian societies in the past. But sin is still woven into the fabric of every polity and every nation. Nowhere on earth is it morally safe to be merely a good citizen or a good patriot. Nowhere in this world can the good man safely let himself feel at home. We must be vigilant, and sometimes we must withdraw, or protest.

But in the Church alone there is a community that in its inmost heart is free of sin, such that a man who hungers and thirsts after righteousness is led deeper into it and not out of it. That is not to say, of course, that the Church is free of sinners. On the contrary, it is full of sinners. It is devoted to righteousness, yet full of sinners, as a hospital is devoted to health, yet is full of sick people. But the bond among these sinners is not sin. The bond among these sinners is the struggle against sin and the shared aspiration to

righteousness. In no way is sin the price of admission to the Church. By contrast, there is always an element of sin involved in membership of and participation in other communities, though it's often right for Christians to engage with them up to a point.

That the Church alone among human communities is not founded in sin is, like the elephant standing halfway in the room in chapter 16, a truth that can only be partially seen from a secular perspective. A church building can harbor mutual encouragement of shared sinful passions, and alas, sometimes the authority of God is claimed as support for selfishness or hatred. That such communities are actually alienating themselves from the body of Christ is invisible. But the deeper one works one's way into the Church, not the Church hierarchy necessarily but the real community of the faithful, the more one understands that its unity is never based on sin, but on love, and Christ, and the truth. Even from a secular perspective, it's possible to recognize that over the grand sweep of history, moral progress is profoundly indebted to Christianity, while moral evils have roots outside Christianity and meet resistance from it.

Perhaps most importantly, the Incarnation made human beings the kinsmen of God and a part of His story, needed as elements in that story.

One of the purposes of the story of Adam and Eve, and the long, boring, and apparently incomplete genealogies that follow, is that it establishes the common descent of the human race. All men are brothers, or at least cousins. That's the antidote to racism and a check on individualism. Of course, science agrees. It doesn't particularly trace human genealogies back to one couple, but it does hold that all family trees converge if they're traced back far enough. It follows from this that you and I and all members of the human race are blood relations of the Virgin Mary, mother of Jesus, and thereby blood relations of Jesus Himself, that is, kinsmen of God. We will not enter paradise as strangers, but as kinsmen of the Prince of Heaven, and then God will adopt us as His sons and daughters.

If the Church is the body of Christ, Christians are members of the body of Christ, part of Him. As He said, "you are in Me and I am in you" (John 14:20). If the story of God is to be told in eternity, we Christians must be included in it, for we are part of that story. That gives us a reason to be there. It gives us a way to account for ourselves in the presence of the angels. Isaiah prophesied long ago that "through your sins be as scarlet, they shall be white as snow" (Isaiah 1:18). Yet so pervasive is sin in human

life that we might worry that the cleansing of our sins would leave us only blank. Thanks to the Incarnation and the Church, we need not be blank. Perhaps we will have stories worth telling even when they have been purged of sin, but at the least we Christians can say this for ourselves in eternity: that we are kinsmen of God, adopted heirs of the Kingdom, who share the human nature that He took upon Himself during one of the strangest but most glorious chapters of His long adventure, and that we have partaken of His body and blood. And that will be enough that we can walk the golden streets of the Eternal City without shame.

And now the whole story begins to come together. I'll try to summarize it in a way that all Christians will agree with, and that is consistent with the official creeds, with the caveat that "all Christians" can't include some modernizers who have compromised and conceded too much to fit into any Christian worldview. But I'll also tell it in a way that I understand it, trying to unpack some of the creeds' mysterious language and looping in other matters to flesh out a comprehensive worldview. And in thus personalizing my statement of the Christian worldview, I may provoke some dissent or reservations. I think it's nonetheless reasonable to make such personalized, contemporary statements of the faith, as long as one doesn't claim for them an authority like that of the official creeds. One must understand the creeds somehow, and some meaning will attach to them in one's mind, so it may as well be publicly stated, so it might instruct or be corrected by others.

Long ago, before time began– and there's a paradox in the words "before time began," but we're dealing in mysteries, and must sometimes settle for clumsy words to express things that transcend language– God was alone, and yet not alone, for in the divine nature there are three Persons. We can't imagine what the love of Father, Son and Holy Spirit was like then, but they weren't lonely, and they didn't *need* to create. Nonetheless, God began to create, to make things separate from Himself. It seems to have begun with the spiritual heavens, home of the angels, created as sinless beings of everlasting light, praising God forever. Again, we can't really imagine their state of being or the happiness they had, for we are incarnate beings, at home in a material world, which hadn't been made yet. But they weren't bored. They were happy, and some have remained so. They were, however, free. They could love and worship God, but they could also change and worship themselves, turning to pride and evil. And some did.

God had made freedom, and the cost of that was high. But it made the praise of the free angels worth more.

Next, God made matter, and the physical world that we know, characteristically free in its own way, not that it exercised choice but that the laws of nature served as its declaration of partial independence, governing its affairs with a certain autonomy from the will of God. Why? I can see two reasons. One is that physical nature, with its own distinctive, stable order and integrity, is full of beauty. There comes a time when the artist stops meddling and lets his work *be*. The other is that physical nature provided an arena for human freedom, and the peculiar fruits that it was meant to bear, and someday will bear, and sometimes bears even now, in the bad times. And so God made light and darkness and the stars and the galaxies and the splendor of the physical heavens. And then He made the planets and the Earth, places where there was permanence and solidity, and gravity organized space into up and down, north and south and east and west. And then, on Earth, He made clouds and rain and rivers and seas, and He made life, drinking the light and multiplying and filling the seas with a new, resilient, beautiful kind of order. Then He cleansed the atmosphere and made it transparent, revealing the sun and the moon and the stars, splendidly marking time over the living world, their permanence and its changefulness starkly contrasting yet strangely harmonious. Then He made animals in the seas, moving life in thousands of forms, and in the air, flying. And He also brought life, and animals, onto the land, and the beasts walked among the forests. And at last, to crown all, He made mankind.

Even though the Bible says at this point that God looked on His world and saw that it was "very good," things seem to have gone a little awry already. The serpent who appears in Genesis 3 and tempts Eve evidently has malicious purposes. Where do they come from? Christian tradition has long traced them back to the fall before the Fall, to that original fall of Satan and the rebellious angels from the company of God into pride and evil. Satan seems to have some kind of access to the physical world, such that he could take the form of a serpent and speak. I don't know whether this is figurative or literal. But paleontology reveals that some of the evils that are physical nature as we know it, such as predation, began long before the presence of mankind on the Earth. Was Satan interfering somehow, marring God's creation?

Again, physical nature as we know it is running down, sinking slowly into a swamp of irrevocable entropy, destined to dissipate and die until eternal silence reigns in the graveyard of the stars. When did that begin? We're never really told, and in a way it doesn't matter. Science assumes rather than proves that the physical laws we know, including the Second Law of Thermodynamics, go back to the beginning of time. For what it's worth, I think that some tendency to entropy and breakdown is consistent with a good universe designed by God. There's no reason a good world would have to be completely permanent by its own nature. If it needed occasional maintenance by God, infusions of new order and design to make up for what was very slowly being lost, that might be part of the pleasure. Some gardeners might prefer a garden that makes them attend to it sometimes by its need for weeding and watering over a garden that is completely self-sufficient. And if God had plans to intervene in nature in grand ways to introduce whole new kinds of order to it, adding life to planets and animals to life and so forth, why should He make each phase be more inherently durable than He intended it to be? Perhaps entropy is not a symptom of the Fall *per se*, but merely a sign of physical nature's designed dependence upon God, which becomes a sign of the Fall inasmuch as the world alienates itself from God and cuts itself off from the occasional infusions of order that it needs even in order to remain itself. But this is speculative. Suffice it to say that there was some kind of fall before the Fall, and the devil was there in the garden to tempt Eve.

Why did God make man? He was there to tend the garden, to care for it, to rule it for its own good, and to be the living image of God in its midst. And human nature is not so fallen as to erase all traces of man's original vocation. Far from it! We can still add beauty to nature. In the domestic dog that mankind has made from the raw material of the wild wolf, there are all sorts of excellences that the wolf lacked. Man-made gardens rival the most beautiful natural meadows, and some man-made orchards might be reasonably preferred to wild forests for their beauty as much as their fruitfulness. A rustic cottage or a ruined castle or a hermit at prayer can usually add something to the beauty of a natural meadow or forest. A rider adds to the beauty of a horse, and an old-fashioned sailing ship to the beauty of the ocean. Nor is it only in our eyes that the dog is better than the wolf. Many dogs are ill-used by sinful men, and I think even the best dog owners are dull and domineering compared to the ways that unfallen man

might have delighted and ennobled all beasts. But still, many or most dogs love their masters and are happier, I think, in their subordinate friendship with man than they would be in the wild, even had they still the lost powers of the wild wolf. We still love to tend the garden of nature, growing plants and caring for pets, admiring and appreciating while benevolently meddling a little. Such now is our best, most innocent leisure, but it was meant to be our principal vocation.

But man fell, like some angels before him, into pride and evil. There was a time, perhaps a literal Adam or perhaps he's a symbol, when the first disobedience was committed. There was a time, perhaps a literal Cain or perhaps he's a symbol, when the first murder was committed. And things tended to get worse. It seems to me that the propensity to sin must have become written into our genes. Certainly, it became written into the culture of human communities, and we can't do without culture. We were never meant to. By a kind of terrible, inexorable law, we sank into a world of survival of the fittest, where all too often the fittest were the most treacherous and cruel, the men rapists and murderers, men and women alike slavishy submitting to brute power.

Men grew more and more brutal, yet they still had faculties that set them above the brutes. They still bore the distorted and defiled image of God, and could reason, and could make a kind of imaginative outreach to God, and sometimes they could invoke the memory of divinity to check their descent into animality. Yet often that only made them worse. Both honest error and motives of propaganda must have driven them to recreate God in the image of themselves, full of passions and violence and adultery. Christian tradition has long held that men came even to worship fallen angels, and demons sat in the thrones rightly reserved for God among men. And so these false gods goaded men to do more evil even than they wished, and often men who had enough conscience still to desire peace were yet driven to war because they thought it was the will of the gods, and men were murdered as sacrifices on their altars.

What could God do about this? To simply override the freedom of men, which they were so grotesquely abusing, would go against God's design for men, and the promise of free will written into men's natures. We are told in the Bible that in the time of Noah, God despaired of mankind to such an extent that He sent a flood to kill all of them except a single family, and natural history attests to events much like this, as when the world ocean

broke through and flooded the Black Sea or the Persian Gulf. Sometimes the case is hopeless and the slate must simply be wiped clean. But also, God sometimes spoke to men, coming to them as a friend and giving them information or counsel. How? In what form did God appear? Sometimes we are told, with detailed narrative or vivid imagery. Other times we are not. We know nothing of how God first spoke to Abraham. Perhaps the best way to guess would be to consult open-mindedly with some of the many contemporary Christians who say that God has spoken to them, and extrapolate. It seems as if God becomes more selective over time. He speaks to all the first humans, even to Cain after he has committed the first murder, but by the time of Abraham, it seems to have become a rare thing to be spoken to by God.

In Abraham, God begins the work of crafting a chosen people, governed by a special law and prescribed to follow a special routine of worship. Their journeys, their way of life, their occasional triumphs, their many sufferings, their intermittent righteousness, and their many temptations and fallings away, are the theme of the bulk of the Bible. They have some special purpose. It is as if they are being prepared for something. But for what? We finally learn that in the New Testament. They are being prepared as the scene of the Incarnation. They are being painstakingly taught enough of the truth that some of them at least will be sufficiently teachable to become the hearers and bearers of the message that the Son of God will bring.

Finally, in the stable at Bethlehem, God was born as a human baby, and lived among us for thirty years as an ordinary man, so undistinguished that when He suddenly began His ministry as a prophet, hardly anyone seemed to know anything about Him. But then He spoke marvelous wisdom and did wonderful miracles, revealing a character that all people who hear of Him admire and take comfort in, even though He was also capable of terrible judgments. When Revelation says that at the end of the world He will come riding on a white horse and "strike the nations with the sword of His mouth" (Revelation 19:15) we recognize Him, for so He struck the Jews during his three years ministry in Israel. He did no violence, yet His words were like a sword against pride and hypocrisy, and His defiant denunciations of the Jewish religious establishment couldn't help but make Him enemies. He worked miracles, and they almost always expressed something of the life-giving creativity of God, such as healing the sick or turning water to wine. Usually, the miracles were done for people in trouble: the apostles in the

boat, on the verge of sinking; the crowd that had followed Him into the wilderness to hear Him speak, without enough food to stay on their feet for the walk home; lepers; Lazarus dead. His miracle-working power made people wonder in a new way who He was, and He began to say, cryptically and guardedly at times but ultimately and cumulatively with unmistakable clarity and conviction, that He was God, or the Son of God, sent into the world to save sinners. With His benevolent miracles and His ethics of love, Jesus won the grateful allegiance of many simple and humble people, and the apostles and other disciples dedicated their lives to Him. But His following made Him dangerous.

In the death of Jesus, His perfection was crowned, with a crown of thorns that turned to everlasting glory, while the world stood condemned. The moralistic piety of the Jews and the patriotic statecraft of the Romans were among the best things mankind had developed. They had each, in their different ways, been wholesome, noble, edifying things, which brought out the good in men, enriched people's lives and made them happy. Even today, men and women are inspired by Roman heroism and justice, and by old Hebrew psalms. But in that hour, they failed the test. Legalistic scruples about the Sabbath gave the Jewish priests and lawyers a pretext for despising a man who was obviously doing so much good, and speaking so much wisdom, and performing signs and wonders. The high priest charged Him under oath to tell them if he was the Son of God. "You have said so," Jesus replied. "But I say to all of you: From now on you will see the Son of Man sitting at the right hand of the Mighty One and coming on the clouds of heaven" (Matthew 26:64). The high priest tore his robes at the "blasphemy," and then the Sanhedrin condemned Jesus to death. But how could they know the claim was not true, especially after all the wisdom and miracles? Yet they were blind. And Pilate, for his part, recognized Jesus's innocence, yet with a legion of Roman swords at his command, he lacked the courage to resist the fury of the Jewish mob. Jewish piety was put to the test and exposed as hypocrisy and fanaticism, then Roman justice melted into cynical realpolitik, and how should any of us feel confident that all our virtue, too, would not turn to ashes in like case? There but for the grace of God go we all.

But death could not hold Him, for its power comes from sin. Old Christian tradition represents the death and resurrection of Jesus as a kind of jailbreak, with Jesus entering the shadowy realm of Hades by stealth, by

fooling the devil into thinking that he was a mere man, and then shattering the gates of Hades with the strength of God, so that all the souls imprisoned there can burst out. That's a mystery that I can't quite unpack, though my soul thrills with the excitement of it. But I think we shed a little light in chapter 17 on why sinful souls must ultimately be exiled into a loneliness without God of which hell is the description, and I think we shed a little light in this chapter on why the Incarnation gives men enough honor that some of them may be released from that exile and enter the company of the angels without shame. Before that day, death had had a terrible permanence about it because its power was the power of sin. Even the few who were raised from the dead went back to the grave in due course. But when death made the mistake of taking a sinless man, its power was broken, and even to the dead in the shadowy realm of Hades Jesus brought His message of hope, and His offer to those who would kill the old sinful self, that He would give them His own self instead, and raise them up to eternal life. From that day on, Christian men and women began to cease fearing death, since for them, it was only a temporary state, and they kept proving that in the arena until they converted the Roman Empire.

It was the beginning of the end of the world, although it has gone on longer than people seem to have expected. Perhaps Christians who want to hurry the apocalypse along, and who wonder what God is waiting for, should remember that Jesus said this: "And this gospel of the kingdom will be preached in the whole world as a testimony to all nations, and then the end will come" (Matthew 24:14). That makes sense. Let each nation, each people, each human lineage, have a fair chance to hear the gospel, to really get acquainted with it, and see if they'll repent and be saved. He gave His apostles, and by extension the Church, the task of doing it: "Go ye into all the world, and preach the gospel to every creature" (Mark 16:15). We haven't finished that job yet. But progress is being made. In some ways, circumstances have never been more favorable than now to finishing it. Before the 16th century, Christians didn't even know where all nations lived. Even in the 19th century, missionaries had to endure epic voyages and tropical diseases and penetrate uncharted jungles to find them. Now most of the world has the internet, and an instructed Christian could explain the gospel over a Zoom call to a seeker on the other side of the world without leaving his or her living room. Was this, perhaps, the purpose of the Covid pandemic: to awaken Christians to the way digital connectivity

empowers them to finally finish the Great Commission? I don't make the suggestion very seriously... yet it wouldn't hurt to act as if it were true.

And then someday, perhaps someday very soon, the Lamb who was slain will begin to open the scroll, and the terrible testing times, through which the saints will journey unscathed, will begin. There will be disasters natural and disasters apparently supernatural, and we will need great courage, not so much to do anything as simply to endure, for "the one who endures to the end will be saved" (Mark 24:13). No doubt, we will have better things to think about then, than to try to mark the precise moment where the catastrophic disruption of the routines of nature as experienced by historic mankind will involve an accelerating dissolution of the physical constitution of nature as described by Newton and Einstein and Heisenberg and Mendeleev. We will be too busy staying alive and repenting our sins to try to preserve the coherence of physical nature. Or we should be. Because we, above all, are the harvest that God wants to reap from this world, and though the process of being harvested may be confusing and uncomfortable and even harrowing, the point of it is that the valuable part of what is harvested, its merit, its virtue, is preserved. There will be continuity in us amidst the discontinuity in everything else, for the discontinuity in a Christian's life came earlier, when he or she died to the old self and became a member of the body of Christ, and real, sincere, saved Christians, or rather those "who are being saved" as Saint Paul said (1 Corinthians 1:18), are already citizens of the Kingdom of Heaven, disguised in the garb of this dying world which is not their home, where they are strangers and sojourners. When Heaven and Earth flee away from the great white throne of God, and they look around and see the new heaven and new earth that have been made, they will sigh with relief that they have finally made it home.

Such is the Christian worldview, but I will not claim to have proved that it is true, and it may not be in your power to believe it just yet. But if any moderately intelligent reader can have read this far without understanding very clearly and beyond doubt that Christianity is a *candidate* for the true worldview, I'll be surprised, and I'd be eager to know what hasn't been understood, or what blockers to faith haven't been taken into account in the argument so far. And yet there's still room for doubt. As I said in chapter 1, apologetics never seems to be completely successful. The public evidence never seems to be entirely decisive. I speculated in chapter 16 that God may

not *want* the public evidence to be decisive, for He doesn't want people to believe in the truth of the Gospel for whom it would not come as good news. The public evidence needs to be supplemented by private evidence, such as answers to prayer.

Meanwhile, you don't have to be completely convinced of the truth of Christianity in order to be try to lead a Christian life. Some parts of Christianity need to be discovered from the inside. And so a good next step if you're a seeker is to start trying to pray.

Chapter 20. On Prayer

Most of this book has been about the public evidence for Christianity. This chapter is about the private evidence. It's the nature of private evidence that I can't share mine with you, and you can't share yours with me, without the vast majority of its evidential force being lost in translation. I'll tell you a little, a very little, of mine later, by way of illustration. But you'll have to find your own to be convinced, and the main goal of this chapter is to teach you how.

Many claims have been urged in the course of this book, and it would have bogged down the text to fully spell out the level of evidence, and the justified degree of confidence, in each claim along the way. But two urgent, overwhelming propositions stand out:

1. Scientific materialism is false.
2. Jesus Christ rose from the dead.

The second claim would be entitled to belief in the same way as any other well-attested historical fact, if not more so, because there is more eyewitness testimony, more disinterestedly given, more bravely defended, etc., were it not miraculous. As it is, doubt is legitimate because of its *prima facie* improbability. Rather than compel belief, therefore, it irrevocably disrupts the complacency of unbelief. While the evidence for the resurrection can't be dismissed or explained away, belief in the resurrection can't *settle* until it's part of a coherent worldview, a reflective equilibrium. And the only worldview in which the resurrection fits in and is at home is full-fledged Christian orthodoxy. That's more than I can prove here, but I've provided a glimpse. To arrive at complete Christian conviction, though, that's not enough. It takes lived experience of the Christian life and at least a little bit, probably a lot, of prayer.

Have you prayed yet? You should. It's only sense. To seek truth *without* praying would be a little like going to a library to research some difficult topic, and turning from one book to another, trying to understand, racking your brain, having a difficult time of it, and making a little bit of slow progress, while all the time, the world's greatest expert in the subject is

sitting there in the library, watching you, completely at your disposal to answer any questions you may have. Several people point out to you that he is present and available to answer questions and provide explanations. But you don't take advantage of it. You won't talk to him. He sits there, smiling, waiting for you to speak, while you struggle through a whole stack of his books, wrestling with the difficult phrases, in an agony of confusion about his meaning. In the same way, God is present as you read this, and well able to answer all your questions, if you ask them through prayer.

Prayer is at once easy and very difficult. It's as easy as speaking, and as difficult as laying bare one's whole soul and inviting an awesome, overwhelming, and incomprehensible power to enter into it, occupy it, and do you know not what. If there is no God, what do you have to lose? Possibly you risk looking a little silly, or getting your hopes up in vain. But not much. If there is a God, you might have a good deal to lose, in a sense. He might tell you to do something you don't want to do. But I don't think that's the main source of reluctance to pray. I think there's a fear of encountering God, not so much of what He might do to us as of what He is, of His sheer greatness and power and goodness, and our own insignificance and vileness in comparison. But if you want the truth, you'd better be willing to face that.

Then again, you're likely to get, or think that you get, nothing but silence.

The example of the expert in the library suggests one reason why. If you ask the expert what a passage in his writings means, no matter how well-disposed he is towards you, he may not give you an answer that you can recognize as responsive to your question. Answer may be impossible, because you don't have the prerequisites. Often, what a fellow expert might understand in ten words, the novice can't understand in a thousand. The best possible explanation the novice could understand might take a hundred words and still get it somewhat wrong. Or the best answer might be to tell the novice something quite different and apparently unrelated, which, however, would set him on a path to learn the prerequisites for understanding the answer to his question, eventually.

Another reason God leaves some prayers unanswered is that, while it is good to ask for God's help in discerning whether Christianity is true, it is wrong to *test* God. As Jesus told Satan in response to one of the temptations in the wilderness:

> Jesus responded, “The Scriptures also say, ‘You must not test the Lord your God.'" (Matthew 4:7)

The scriptural passage to which Jesus is referring here occurs when the Israelites, at a place called Massah, or Meribah, admits to the desert through which they are traveling, demand that Moses give them water, in such intemperate and challenging language that they effectively make the provision of water the test of whether God is helping them at all.

Elsewhere, when the Pharisees and Sadducees ask for some miraculous sign to prove the extraordinary claims Jesus is making about himself, Jesus rebukes them, saying

> "A wicked and adulterous generation looks for a sign, but none will be given it except the sign of Jonah.” (Matthew 16:4)

Scripture juxtaposes these warnings against testing God by means of requests for miracles with emphatic affirmations that God answers prayers. In the Sermon on the Mount, Jesus says:

> "Ask, and it will be given to you; seek, and you will find; knock, and the door will be opened to you. For everyone who asks receives; he who seeks finds; and to him who knocks, the door will be opened.
>
> "Which of you, if his son asks for bread, will give him a stone? Or if he asks for a fish, will give him a snake? So if you who are evil know how to give good gifts to your children, how much more will your Father in heaven give good things to those who ask Him!" (Matthew 7:7-11)

Yet another recurring theme is that God will answer prayers only for those who *believe* that their prayers will be answered. He often tells those who request and receive miracles of healing, "Your faith has saved you," implying but only because they believed the miracle would work, it did. Most dramatically, Jesus says:

> “Have faith in God. Truly I tell you, if anyone says to this mountain, ‘Go, throw yourself into the sea,’ and does not doubt in

> their heart but believes that what they say will happen, it will be done for them. Therefore I tell you, whatever you ask for in prayer, believe that you have received it, and it will be yours. (Mark 11:22-24)

This gets rather alarming! A world in which every faithful Christian can order mountains to be thrown into the sea sounds chaotic and dangerous. What if we should happen to be on the slopes of one of them when it gets dunked?

Also, from a scientific perspective, this teaching is very frustrating! It's part of the scientist's ethos to conduct experiments, and to believe hypotheses on the basis of testing. A hypothesis that forbids itself to be tested stands self-condemned. Falsifiability is the standard of science, and we used it earlier in the book to refute the scientific pretensions of the theory of evolution. But Christian claims about prayer are strangely gerrymandered to be unfalsifiable! It's not permitted to be tested, and as soon as the motive is to test it, it stops working.

But this taboo against testing the power of prayer seems reasonable as soon as you regard it not as a scientific hypothesis about natural laws, but as part of a relationship with a person. It's typical of most human relationships, too, that deliberately testing them is taboo. I might sometimes need to make a request, in desperate need, that tests a friendship. If the friend answers my need and fulfills the difficult, urgent request, the friendship will probably be strengthened. But if I make the request *in order* to test the friendship, it certainly won't strengthen it. In that case, it is proof of mistrust, and will give offense as soon as the friend finds out.

God really does want to be your friend. Jesus tells his disciples on the eve of the crucifixion:

> "I no longer call you servants, because a servant does not know his master’s business. Instead, I have called you friends, for everything that I learned from my Father I have made known to you." (John 15:15)

In praying, we should seek to strengthen our nascent friendship with God. And that's the best way to get at the truth of Christianity, too, for the most incredible claim of Christianity is precisely God's friendship with us,

God's great love for us even in our sin and moral squalor and weakness. Once you've understood the great truths of pre-Christianity, the commonsense theology of creation and fall, the one towering difficulty that remains is to accept, to realize, to embrace that the all-wise creator and sustainer of the world is profoundly interested in *you*, and determined to make you live in bliss forever, if it's at all possible, at any cost to you, at any cost to Him. The more your friendship with God flourishes, the better is your personal evidence that the good news of the Gospel is true.

What does that imply for how we ought to pray? Do common ways that people pray make sense for cultivating a stronger relationship with God?

People often pray in order to ask for things. It's a mark of strong friendship that you can ask for things that you really need, and the help will be given. You can rely upon it. And you may strengthen a friendship by showing that you know you can rely on it, and trusting in your friend to help in a time of need. At the same time, asking for things that we merely want, but don't need, can be an abuse of friendship, and weaken it.

Some of this cross-applies to prayer to God, with a few clarifications. First, as to need, our entire lives on earth are, if we but knew it, a time of dire need in which God is our only help. We are fallen, mortal creatures, doomed to die, and it's an intolerable fate for us, contrary to our original nature and our heart's desires, but rendered inevitable by sin and its legacy, unless God rescues us through some unimaginable redemption. And so it is always permissible for us to pray for redemption, for salvation, for eternal life, if we are capable of it. But often, we can't rise to that, because we don't *really* want it. Our desires don't aim so high. And so we ask for earthly things, money and economic security and health and whatnot, which we probably ought to care about and strive for less than we do.

Still, there's generally no sin in praying for earthly blessings, and there can be some good. It's a good time to supplement the idea of God as our friend with two other ideas: God as our Father, and God as a lover almost as a man loves a woman. The latter metaphor may seem shockingly inappropriate, yet scripture and Christian tradition are full of the idea that first the nation of Israel, and then the Christian Church, are loved by God as a bridegroom loves a bride. It matters here because while material help among friends is a distraction, and dependence of one friend in another is a flaw in a friendship, material help and dependence for parents or lovers is a pleasure. Good parents love to do things for their children, and delight in

their dependence, and a lover loves to give and to be needed. God loves to give us what we want. And praying for earthly blessings is good for us. It makes us review what we want and what we are striving for against the divine standard. Some things that we work hard for, we might not be willing to pray for, because as soon as we think about them and God at the same time, we realize that we shouldn't want those things, and that stops our prayer short. Doubtless, there is a sin of praying for frivolous, worldly comforts and pleasures when we have more important duties, but it's not one of the Bible particularly warns against. God can always say no. The key is to be open to the will of God to give or withhold the things we ask for. As long as that's our attitude, the danger of wrong asking isn't too serious.

Even Jesus, on the eve of the crucifixion, showed his humanity by praying that the cup of death which was prepared for him be taken away from his lips. And yet He added, "Thy will be done." We should likewise choose our words and regulate our feelings so that we are making requests and not demands of God. But if we do, we may feel free to pray very frequently, and about the smallest matters.

Again, we might also pray to God for guidance, for help with making decisions, just as we ask friends for advice. It's good to do so. But remember that advice is a perilous business, and fraught with many problems. For example, if a friend gives advice and it is not taken, the friendship tends to incur damage, in a way that it does not if the advice was never requested. Perhaps it's not a sin if we sometimes make decisions without asking God what to do. It's certainly a sin if we pray to God for counsel about what to do, and then, having been answered and found the advice not to our taste, we ignore it. I presume that's one reason why God sometimes doesn't seem to answer prayers for counsel. He doesn't want to make us sin worse by telling us the right thing to do, when we're not willing to do it.

Among friends, too, a request for advice can be refused. A friend might say, "I don't know. Do whatever you want, I guess." But that depends on the tone in which the advice is requested. If the request is made with too much urgency, importunity or insistence, a friend might feel effectively required to give advice even if he's not comfortable. Human friends might be uncomfortable giving advice just because they don't know what should be done. That difficulty presumably doesn't apply to God. But a related problem very decidedly does.

Advice from a friend may be misinterpreted, resulting in a bad decision because acceptance of the advice cut short of process of internal deliberation. Then, when the misunderstood advice causes harm, the friend who accepted the advice may have a grievance, while the friend who gave the advice may suffer damage to his reputation, either with that person only, or perhaps with others as well, if in accepting the advice, the person *told others* where it came from. This danger is far greater in the case of God, because His advice carries so much authority. Wrong beliefs about the will of God have been one of the greatest sources of evil in human history. God has to be very careful and skillful in dealing with humans to limit the damage of having His mandates misinterpreted.

For the greatest danger of prayer is that it will lead us into spiritual pride and taking the Lord's name in vain. The Third Commandment says:

> “You shall not misuse the name of the Lord your God, for the Lord will not hold anyone guiltless who misuses his name." (Exodus 20:7)

Tremendous evil has been done in history by some people urging other people to do things for the sake of God which God really deplores. Jesus was killed as a blasphemer, that is, in an act of misguided service to God. Christians have often been persecuted and killed, as Jesus warned them, by people who thought they were doing God service (John 16:2), and even worse, they have sometimes done the same to others. This may be part of the reason why Jesus wanted people to keep their prayer practices private:

> But when you pray, go into your room, close the door and pray to your Father, who is unseen. Then your Father, who sees what is done in secret, will reward you. (Matthew 6:6)

And also:

> “Do not give dogs what is sacred; do not throw your pearls to pigs. If you do, they may trample them under their feet, and turn and tear you to pieces." (Matthew 7:6)

The secrecy of prayer, and of answers to prayer, doesn't seem to be a hard and fast rule, for Jesus himself prays in company at times, as before

the tomb of Lazarus, or at the Last Supper, and the Church has always taught Christians to assemble and pray together. But it should be borne in mind. Jesus sometimes told the beneficiaries of his miracles of healing to proclaim them to others, and sometimes to keep them secret, and while we don't know why, it's easy to imagine all sorts of reasons why each course would be right in different circumstances.

Above all, we see in the parable of the publican and the Pharisee how prayer can be sinful:

> To some who were confident of their own righteousness and looked down on everyone else, Jesus told this parable: “Two men went up to the temple to pray, one a Pharisee and the other a tax collector. The Pharisee stood by himself and prayed: ‘God, I thank you that I am not like other people—robbers, evildoers, adulterers—or even like this tax collector. I fast twice a week and give a tenth of all I get.’
>
> “But the tax collector stood at a distance. He would not even look up to heaven, but beat his breast and said, ‘God, have mercy on me, a sinner.’
>
> “I tell you that this man, rather than the other, went home justified before God. For all those who exalt themselves will be humbled, and those who humble themselves will be exalted.” (Luke 18:9-14)

The greatest danger of prayer isn't even that we or others are less into wrongdoing by misinterpreting God's answers. The greatest danger is spiritual pride. Just because a relationship of love and confidence between man and God is the highest excellence of human life, the feeling that we have attained it can give rise to the most ruinous kind of pride. And I think it's partly because telling people about one's answered prayers might cause is to feel rather special and chosen and favored by God, and superior in that respect to others, that Jesus warns us to pray in secret. The greatest danger of prayer is that we'll try to make God the accomplice of our own pride, and that danger is heightened as soon as we report our prayers to others. Piety can be a mask for boasting.

And so it is worth great trepidation that I present one of my own stories of answered prayer. Hopefully the story is sufficiently discreditable to me, not as a great sinner but as rather hapless and cowardly, that it doesn't tempt me to too much pride. It's a very small instance of divine action in the world, too, though great in its impact on me.

There was a time in my life when I had recently turned to Eastern Orthodoxy and had been baptized, but other than that, everything was falling apart. My wife had left me a year before, and four years of elaborate romantic agony had ended in nothing but an irrevocable disillusionment as deep as the world, darkening my imagination, crippling my capacity for hope, and creating a permanent backdrop of pain for all events. Once suicide had been inconceivable to me. I had changed so much that in that time, the lack of at least some inclination towards suicide had instead become to me an inconceivable state of mind.

Professionally, after my Master's degree, I had bounced around among prestigious but unstable consultant roles, then thrown away my earning power temporarily to pursue a PhD which might, just possibly, I thought, help me get a secure professional foothold somewhere, which had so far eluded me. An academic career was a perennial preference of mine which, however, had always seemed unattainable. I had an impression, not quite justified as it turned out, that affirmative action had effectively closed the door to academic careers for white males such as myself. My future was far from hopeless but painfully vague, and my only plans were dreams which I took to be impractical. That's not necessarily such a hardship for a young man of quixotic temperament, but the bleak thing was that it was all I had. Scaling intellectual mountains with only vague and distant hopes of any livelihood was the only real source of meaning in my life, other than my newly acquired faith. And my faith was a halting and stumbling affair. There was so much to learn, so many habits to form, so many attitudes to adjust, so many new and strange claims that I was expected to believe, but couldn't help doubting. I felt like a pretty feeble and second-rate Orthodox Christian.

Most salient from day to day were the elaborate fasting rules of the Orthodox Church. At first, I had remained imperfectly informed and compliant on purpose, not from lack of willpower so much as intellectual skepticism about the need for it. I didn't doubt that some fasting was appropriate, but surely the Church was overdoing it. But I'd started to come

around with a feeling that, in spite of everything, God had blessed me tremendously, and if there were anything I could do that might help to show my gratitude, I had better do it, no matter how odd it might seem. Great Lent was approaching, and I was vaguely resolved to do it right this time.

Just then, a disaster struck. Complete and total ruin. I got a message from the IRS. Before my PhD, I have been working for international organizations that didn't do tax withholding in the usual way. I knew quite a bit of economics in the abstract, but practical accounting concerns like doing one's taxes bored me, so I had run through with hastily on some online app and gotten it wrong for 3 years in a row, quite innocently. I had underpaid by about $35,000, I think. I don't remember the exact amount, but it might as well have been a million for my ability to pay it on my dramatically reduced graduate student income. Marital factors and an entrepreneurial excursion had used up the money that should have paid those taxes. My mind ran desperately over quitting school and finding a higher paid job somehow, but I was in that weird trap of being both underqualified and overqualified for all the practical work that people of my intelligence level usually pay the bills with. I'd gotten used to happiness being out of reach, but now survival seemed like practically an impossibility.

On a certain day in the midst of Cheesefare week, as I was waiting helplessly for some financial guillotine to fall on my head, practically listening for the sirens come to haul me off to an IRS dungeon, it came time to renew my driver's license or my car registration or something, I can't remember which. I'd better stop and explain Cheesefare week. Orthodox Christians frequently abstain from meat and dairy to mark certain days for remembrance of the crucifixion, preparation for great feasts, and other purposes. Usually meat and dairy go together. But there is one week of the year, called Cheesefare week, when meat is forbidden but dairy is allowed, before both become forbidden during the long weeks of Great Lent. It's a good time to drink lots of milk, and eat lots of ice cream and cheese.

Anyway, I tore myself away from a mountain of grad school reading, went to the DMV, waited three hours that I couldn't afford, and found I didn't have all the needed papers, and didn't know how to get them. Coming after the IRS blunder, I felt a despairing sense of being hopelessly unfit to survive in an age of bureaucracy and red tape. I was broke, and soon I wouldn't be able to drive legally. On my way home, I went through a Taco

Bell drive-thru to get some burritos for dinner. I went home, sat in front of my computer, and started studying, while pulling out a burrito for a working supper.

But it was the wrong burrito! I had ordered something large and meaty, and found myself holding something thin and cheesy. It was another blow buy a spiteful world that seemed to have decided to checkmate me and was driving the point home in every possible way. It wasn't enough food. I would have to go to bed hungry. I thought about going out again but I couldn't spare the time. I had been really looking forward to a full belly, as a bit of momentary comfort as my world fell apart. Why hadn't I noticed the Taco Bell had charged me too little for what I had ordered? It underscored my ineptitude at personal finance, my sense of helpless incompetence. Hour by hour, the world was going more awry, scorning even my humblest dreams and desires.

And then suddenly thrill went through me as I realized what the hand of Providence had done.

I had been about to eat meat during Cheesefare week! I had been about to fail in my plan to follow the Great Lent fast even before I had begun. But God had stopped it, and kept me on track. In my preoccupation, I had completely forgotten that I wasn't supposed to be eating meat that day. I had ordered a meaty burrito, and gotten a cheesy one instead. What were the odds? The surprising thing, of course, wasn't that a fast food restaurant employee should make a mistake, but that they should make *that* mistake just *then*, when I needed it most. I was an inadvertent scofflaw in the eyes of the IRS and the DMV, but God was helping me to follow His rules, to fulfill my good resolutions. I had felt worthless, but now suddenly I felt tremendously valued and cared for. All had seemed to be melting into chaos, but suddenly my feet had struck the rock of a sublime new order, and I was no longer falling, but standing. This new source of meaning in my life had come through for me. If I became a bankrupt, I could still, with God helping me, keep the fast.

I'm telling this story as an example of an answer to prayers, yet I don't even remember what prayers I was saying that day. I think they were desperate, flailing prayers, just "Lord, help me," again and again, like a drowning man grabbing for a life ring. As usual in life, I was navigating reality based on a sense of probabilities that I couldn't quantify when I immediately recognized the Taco Bell server's mistake as a miracle.

Obviously, I anticipated nothing of the sort as an answer to my prayers, and in spite of telling the story at this length, it's impossible to convey the amazing way in which something going unaccountably right in the divine order met the need in me that sprang from so many things going unaccountably wrong in the order of this world. But the odds were a thousand to one against that particular mistake, unless it were an answer to prayer, in which case it seemed wonderfully suitable.

Even though I've now told it publicly, I consider this story only my own personal, private evidence in favor of faith. To see why, consider what a skeptic would be likely to say about this experience. It does seem surprising that the Taco Bell server would get your order wrong in just that way, helping you to keep the fasting rules that you had forgotten, at a time when you needed encouragement. But what if she hadn't? What if she had gotten your order right, forgotten it wrong in a way that didn't help you keep it fast? You probably wouldn't remember it. You remember it because it struck you as an answer to prayer, and that made it exciting and important. But it's quite likely that in the life of a Christian who is seeking God and trying to discern His will, A few events that are individually unlikely, and it seem like answers to prayer, will occur, simply by chance. With so many Christians on the lookout for such coincidences, and making much of them when they occur, their end up being quite a lot, but it's only a bias a rising from selective memory.

I don't care to argue the point. It's probably reasonable to dismiss my story as chance for someone who doesn't know the full sweep of my life or understand where the critical moments were. I have the impression that this is one of many such apt blessings, moments of beneficent serendipity, the bear the mark of a loving Creator looking after my wayward soul, but I forgotten most of them. I only remember this one because it happened to strike me at some point as a good illustrative example, and so I made a mental note of various details. Perhaps if I'd kept a careful diary of them all, some would be more impressive, or perhaps not. The biblical miracles are more impressive, yet I think they have two features in common: (a) they come in moments of desperation to people who are trying to do good, and (b) they meet the need with peculiar aptness. Anyway, don't bother too much with my answered prayers. Get some of your own.

Two more things before we close the topic of prayer.

First, when you pray, and especially when in prayer you ask God for guidance, you had better be prepared to obey if an answer comes. But this raises a difficulty because you might be unsure if what comes as an answer to prayer or not. What does God seems to be telling you to do one thing, while reason or conscience seem to be telling you to do something else. I won't try to give completely general advice here, and there may be cases where this happens, but in general, I don't think God's answers to our prayers will even seem to go against reason or conscience. If reason and conscience give a single clear verdict about what to do, you probably shouldn't even be praying for guidance about it. One shouldn't pray about whether to steal money through fraud, or whether to commit adultery. Probably if you're conscience is awake enough to make you want to pray at all, you will know perfectly well that you should not do these things, and even to ask God would be a kind of insult. It's when you really don't know what to do, when reason and conscience cannot settle the matter, that people particularly ought to and they're likely to pray for guidance. And then answers to prayer can't go against reason and conscience because reason and conscience are at a loss for what you should do. That limits the danger of misinterpreted answers to prayer. If God seems to be telling you to do something senseless or wicked, you might do well to revisit your reasons for thinking it so, and perhaps you'll find the course of action is better than you thought at first. But if upon reflection it still seems senseless and wicked, don't do it.

Second, we've seen why prayers sometimes initially seem, or perhaps really do, go unanswered. It goes against the grain to talk to the air. And it's hard to keep expecting an answer if none comes. How long should we keep trying? The strange answer is that it's only rational to keep praying your whole life. For the potential reward for forming a relationship with God is *infinite*, namely eternal life, and to live with Him in bliss forever. Even if it seems unlikely that there is really a God who answers prayers, the slightest chance or possibility, multiplied by the infinite potential reward, always still amounts to a good enough reason to pray a little more.

So keep trying to pray. Pray without ceasing if you can. Pray with humility, but with as much confidence as you can muster. Sooner or later, God will answer. And only in the experience of answered prayer, I think, can Christian conviction become complete. Its claims are too strong and surprising, too hopeful amidst a sad world, to be believed merely as one

accepts a theory as probable. The public evidence is enough to lead you to the threshold of faith, but only private evidence and prayer can open the door.

Chapter 21. Eastern Orthodoxy

If Jesus Christ is risen, if Christianity is true, what should you do about it right now, or in, say, the next few weeks?

Among other things, go to church, of course. But which one?

Well, for my part, I am a convert to Eastern Orthodoxy.

My reasons for being Eastern Orthodox start from church governance. The Eastern Orthodox practices a form of conciliar governance that seems reasonable and is consistent with the way the early Church settled a dispute in Acts, chapter 15.

At that time, Paul and Barnabas were making many converts among the Gentiles. The question then arose of whether these Gentile converts still needed to follow the elaborate law of Moses, including circumcision, which it seems that many Jewish Christians were probably still doing their best to obey, but which was very hard for Gentile converts, who weren't used to it and probably didn't see much value in it. Acts reports that "certain people came down from Judea to Antioch and were teaching the believers: 'Unless you are circumcised, according to the custom taught by Moses, you cannot be saved.'" (Acts 15:1) Naturally, this was unsettling for Gentile converts, who had converted on the understanding that they could become Christians without living like Jews.

The dispute was settled by a church council at Jerusalem. The proceedings went as follows. First, Paul and Barnabas were sent to Jerusalem "to see the apostles and elders about this question" of whether the Jewish law was binding on Christians. So the initiative for the council came from Christians who had heard teachings that seemed wrong to them, and who were seeking reassurance and instruction.

"When they came to Jerusalem," Acts 15 continues, "they were welcomed by the church and the apostles and elders, to whom they reported everything God had done through them." As the Church tried to discern the will of God, the missionary successes and miracles of St. Paul seem to have served as important evidence that God approved of His approach to integrating Gentile converts.

"Then," continues Acts 15, "some of the believers who belonged to the party of the Pharisees stood up and said, 'The Gentiles must be circumcised and required to keep the law of Moses.'" It seems surprising that there was a

"party of the Pharisees" among the Christians, when the Pharisees had been such adversaries of Jesus. But it's a credit to the faith that it had converted them. And the position they take would seem to have some support from Jesus's statement that "until heaven and earth disappear, not the smallest letter, not the least stroke of a pen, will by any means disappear from the Law until everything is accomplished" (Matthew 5:18). So there was a real debate here, with arguments on both sides.

Continuing from Acts 15: "The apostles and elders met to consider this question. After much discussion, Peter got up and addressed them." Peter's eloquent speech follows, appealing to his own experience in preaching to the Gentiles after a vision from God, and stresses that God "accepted them by giving the Holy Spirit to them, just as He did to us. He did not discriminate between us and them, for He purified their hearts by faith. Now then, why do you try to test God by putting on the necks of Gentiles a yoke that neither we nor our ancestors have been able to bear? No! We believe it is through the grace of our Lord Jesus that we are saved, just as they are.'"

There is certainly no sign here that Peter is in charge. On the contrary, the fact that after a lot of discussion he speaks up not to deliver a judgement but to engage in passionate persuasion proves he was just another discussant.

Then, after Paul and Barnabas speak, impressing the assembly by accounts of signs and wonders, James speaks up. "Brothers," he said, "listen to me. Simon [Peter] has described to us how God first intervened to choose a people for His name from the Gentiles. The words of the prophets are in agreement with this, as it is written..." and he quotes a supporting passage from the prophet Amos, then concludes. "It is my judgment, therefore, that we should not make it difficult for the Gentiles who are turning to God. Instead we should write to them, telling them to abstain from food polluted by idols, from sexual immorality, from the meat of strangled animals and from blood. For the law of Moses has been preached in every city from the earliest times and is read in the synagogues on every Sabbath" (Acts 15:23-21).

James' tone of calm authority, combined with the fact that his judgement ends the debate, suggests that he was presiding at the council. It ends in a compromise. Something is conceded to advocates of the law of Moses, and James cites widespread familiarity with the law of Moses in Gentile cities

to justify this. Still, Peter and Paul seem to have won their essential point, for the council is authoritatively setting the precedent that the Church can override the authority of the old Law of Moses.

Next, "the apostles and elders, with the whole church, decided" to send Paul and Barnabas back to Antioch with the council's decision, along with two of their own, Judas Barsabbas and Silas, "who were leaders among the believers," and who presumably have added authority since Paul and Barnabas themselves were parties to the dispute and might have been mistrusted bearing the news of a decision favorable to themselves. Crucially, they took with them a letter from the council.

The letter begins: "The apostles and elders, your brothers" (Acts 15:23). This states the source of the authority behind the letter. First, the apostles, with a natural authority from their closeness to Jesus during His ministry. But not the apostles alone, for there are also "elders." And to offset any claim to superiority that may seem implicit in the fact that they were sending a letter with instructions, they add "your brothers," putting themselves on a level with the Gentile converts while emphasizing the bonds of love between them.

Then it says who it is to: "To the Gentile believers in Antioch, Syria and Cilicia: Greetings." Some later councils had more explicit universality. It's interesting to compare this greeting to that in the synodal letter from the 4th-century Council of Nicea, which runs: "To the Church of Alexandria, by the grace of God, holy and great; and to our well-beloved brethren, the orthodox clergy and laity throughout Egypt, and Pentapolis, and Lybia, **and every nation under heaven**..." (my emphasis). In both cases, the council focuses on the church where the problems originated, but since the council in Acts 15 only provides a local compromise, it stops there. The Council of Nicea permanently settled a doctrinal question for the whole Church, so it adds "every nation under heaven"

The letter in Acts 15 continues: "We have heard that some went out from us without our authorization and disturbed you, troubling your minds by what they said." The mention of "authorization" implies that the apostles and elders assembled at Jerusalem church enjoyed some authority, as the Gentile believers must have thought in order to send Paul and Barnabas there to ask its advice in the first place. "So we all agreed to choose some men and send them to you with our dear friends Barnabas and Paul— men who have risked their lives for the name of our Lord Jesus Christ." This

mention of the courage for the Gospel of Paul and Barnabas bolsters the authority of the letter and the council's decision as well as Paul and Barnabas themselves. "Therefore we are sending Judas and Silas to confirm by word of mouth what we are writing. It seemed good to the Holy Spirit and to us not to burden you with anything beyond the following requirements: You are to abstain from food sacrificed to idols, from blood, from the meat of strangled animals and from sexual immorality. You will do well to avoid these things. Farewell." (Acts 15:24-29)

Finally, the message is duly sent and, happily, well received by the Gentile believers: "So the men were sent off and went down to Antioch, where they gathered the church together and delivered the letter. The people read it and were glad for its encouraging message." (Acts 15:30-31)

What are some takeaways from this letter about how the Church should be governed? There is an idea of authority here, but the letter to the Gentile believers mentions ***no single individual*** in whom authority is vested. Instead, the letter comes from "the apostles and elders," clearly indicating ***collective leadership***. Tradition holds that James presided at the council, as the text seems to suggest, but his name is not mentioned in the letter that transmits its conclusions to the Gentile believers. During the council, the matter at hand is settled not primarily by authority but by reasoning and discussion and appeals to the authority of scripture in an effort to discern the will of God. I think it's not inconsistent with the tradition of James' presidency of the council to add that James's judgment might have settled the decision of the council not because he was in charge but because he was making a concession. If James had been the most prominent voice resisting or doubting the strong advocacy of Peter and Paul, or if he enjoyed a position of particular respect and authority among the party that was advocating the Jewish law, then his judgment might have established unanimity. It does not follow from this that James could have ruled the other way and expected Peter and Paul to submit. And it's hard to imagine that they would have done so, since Peter had had a vision from God to support his position, and Paul's position on the loss of authority of the Jewish law, strongly articulated in many letters, had surely been taught to many Gentile converts, and received a kind of confirmation when Paul, teaching it, had been granted by God to work many miracles.

The outcome of the council was a compromise, and in spite of the apparently unanimous support of the council for the decision, and its

inclusion in scripture, it hasn't stuck. Christians are not taught to avoid meat that has been strangled, or blood. If any Christian were to suggest that he felt forbidden to eat his steak rare because Acts 15 bade the Gentile converts to refrain from blood, other Christians would find his scruples bizarre. The compromise outcome seems a little inconsistent with the vision vouchsafed to Peter earlier, from which Peter drew the conclusion that God had made all foods clean. Paul, for his part, argues in 1 Corinthians 8 that there's nothing wrong, really, with eating food offered to idols, but nonetheless advises people to abstain from it because some think that it's wrong and it's better not to offend them or shake their faith. But while it didn't convince everyone or prove lasting, the council at Jerusalem was successful because it preserved the unity of the Church and encouraged the Gentile believers. The council restores unity without overriding anyone's reason and conscience.

The words "it seemed good to the Holy Spirit and to us," with which the apostles and the Jerusalem Church introduce their ruling and give it a warrant for authority, are curiously forceful and mild at the same time. Their claim to know the feelings of the Holy Spirit is strong and bold, and invests their whole reputation for spiritual insight in the decision that is being made. And yet just because one thing seems good to the Holy Spirit doesn't mean that other things might not also have seemed good. Maybe the Holy Spirit would have approved of many other compromise measures. Maybe the Holy Spirit would have approved of a more complete mitigation or abrogation of the law of Moses, and will do so later. The decision doesn't demand full intellectual agreement, but at most a kind of practical compliance. It definitely precludes and prohibits further teaching of the doctrine that comprehensive adherence to the law of Moses is necessary for Christian salvation. But it does not prohibit anyone from practicing law of Moses, themselves, or deny that there is any virtue in doing so. In general, it leaves lots of room for different attitudes and opinions and practices.

While the apostles had a certain place of leadership in the early Church, no one among the apostles was particularly a natural leader. Peter tended to be the boldest and most forward, but prone to err thereby. He needed correction or confirmation by others, such as Jesus Himself during His lifetime, once very forcefully ("Get thee behind me, Satan," Jesus once told him (Matthew 16:23)), or James in the Jerusalem council, or Paul who corrects Peter when he in improper deference to the scruples of visiting

Jews refuses to eat with Gentile converts while they are visiting (Galatians 2:11-21). Jesus had for the most part treated the apostles all alike, except that there were three, Peter, James, and John, whom he chose from among the rest to accompany him on a few special occasions. If Peter had been invested with monarchical authority by Jesus, as the Roman Catholic Church later began to claim, Acts 15 is where we would have seen it operating. But clearly no one at the council or in the early Church, least of all Peter, has the slightest notion of any such thing.

Both the collective approach to leadership and the bias in favor of tolerance and deference to individual opinion and conscience are reasonable. Many heads are better than one. If even God is a Trinity, why should the Church be a monarchy? Jesus chose twelve apostles and named no leader. And so for centuries the early Church made major decisions in great church councils attended by many bishops. Some bishops, to be sure, were more eminent and authoritative than others, especially the patriarchs of Rome, Constantinople, Alexandria, Antioch, and Jerusalem. There was even a hint of a slight preeminence on the part of Rome, as a sort of "first among equals," because it was both the capital of the empire and the burial place of St. Peter and St. Paul. But the idea that all the Eastern patriarchs had to submit to Rome was alien to the early Church. And so, to this day, the Eastern Orthodox churches carry on that tradition and vest the greatest doctrinal authority in councils where the Church comes together to decide pressing questions. If the Catholic Church is like the Roman Empire, with one emperor in charge, the Orthodox Church is like NATO, a league of self-governing national churches united by common principles and, hopefully, by love, which decide together. That honors the biblical model.

So where do the Roman Catholics get the idea that Jesus made St. Peter the first pope and invested all Church authority in him? They base their doctrine on the following proof text:

“'But what about you?' he asked. 'Who do you say I am?'

"Simon Peter answered, 'You are the Messiah, the Son of the living God.'

"Jesus replied, 'Blessed are you, Simon son of Jonah, for this was not revealed to you by flesh and blood, but by my Father in heaven. And I tell you that you are Peter, and on this rock I will build my church, and the gates of Hades will not overcome it. I will give you the keys of the kingdom of heaven; whatever you bind on earth will be bound in heaven, and

whatever you loose on earth will be loosed in heaven.' Then he ordered his disciples not to tell anyone that he was the Messiah." (Matthew 16:15-20)

Now, I can see why someone hastily reading this passage might think that the "rock" on which the church was built was St. Peter himself. But that's a very inapt description of St. Peter's place in the Church. The words "Get the behind me, Satan" (Matthew 16:23) come almost immediately after this, when Peter urged Him not to be crucified, and the three denials on the eve of the Crucifixion were still to come. Certainly, God often made good use of St. Peter's impetuous temperament, and St. Peter is much loved by Christians today, among the other saints. But the rock on which the church is built is not Peter personally, but ***the statement of faith that Peter had just uttered***: that Jesus is the Messiah, the Son of the living God. I think that's easy to see from the daily life of any pious parish. It is shared faith in Jesus as the Messiah and the Son of God on which, like a rock, the love and communion and unity of any good church is built. St. Peter doesn't play that role at all. Read in the Roman Catholic way, the passage seems oddly magical and inapt, lacking the characteristic wisdom of Jesus. But rightly interpreted, it fits in, and is wise.

As for Peter being given the power to bind and loose, we learn soon afterwards that that belongs to all the apostles, and to the Church generally. For this is what Jesus teaches about how disputes within the Church should be settled:

“If your brother or sister sins, go and point out their fault, just between the two of you. If they listen to you, you have won them over. But if they will not listen, take one or two others along, so that ‘every matter may be established by the testimony of two or three witnesses.’ If they still refuse to listen, tell it to the church; and if they refuse to listen even to the church, treat them as you would a pagan or a tax collector.

“Truly I tell you, whatever you bind on earth will be bound in heaven, and whatever you loose on earth will be loosed in heaven.

“Again, truly I tell you that if two of you on earth agree about anything they ask for, it will be done for them by my Father in heaven. For where two or three gather in my name, there am I with them.” (Matthew 18:15-20)

Thus Jesus establishes a norm of collective leadership. Judgment is invested not in any individual, but in the Church generally, with an emphasis on the need for multiple witnesses, and Jesus, far from promising infallibility to a single monarch of the Church, promises to be present

whenever Christians are gathered in His name. The church council at Jerusalem in Acts 15 practices the power to bind and loose that Jesus granted it, binding the believers to its compromise formula but loosing them to be Christians without mastering the Mosaic law, and binding the Pharisee believers not to blame the Gentile believers for being Christians without becoming Jews.

In the centuries after the fall of the Roman Empire, the Latin-speaking West and the Greek-speaking East grew apart. Three of the Eastern patriarchs fell under the political rule of the conquering Muslim empires, weakening them. In the West, Christianity spread north and west to the furthest ends of Europe, and all these new Christians recruited from Celts and Germans and Norsemen looked to Rome, not the distant East, for Christian leadership. The papacy's preeminence and the distance and irrelevance of Constantinople made the Church in the West seem more centralized and monarchical than the early Church or the Eastern Church. In the 8th century, someone forged the "Donation of Constantine," a document which supposedly recorded a grant of overwhelming authority by the emperor Constantine to the Roman popes, but which was exposed as a forgery in the 15th century.

But the real break came in the 11th century, when the papacy launched a kind of revolution, imposing clerical celibacy, defying emperors, launching crusades, and making very strong and ever-escalating claims about papal supremacy not only over the Church but over secular rulers. Among other things, a papal emissary excommunicated the patriarch of Constantinople in 1054, and the churches have been tragically divided ever since. More divisions followed later, when papal abuses of worldly power and doctrinal authority provoked reform attempts that precipitated secession from the Roman Church, partly from an aspiration to return to the purer model of Christianity that Catholic subjects disillusioned by the spectacular corruption and violence into which the late medieval Roman Catholic Church had fallen perceived in the early Church described in Acts. Thus Protestantism was born, but it soon made mistakes and splintered.

Nonetheless, all these churches, Eastern Orthodox and Catholic and Protestant, adhere to the Nicene Creed, and in general, their worldviews are overwhelmingly the same. I think the brevity of this chapter relative to the length of the rest of this book is roughly in proportion to the amount of doctrinal disagreement among historic Christian churches relative to the

amount of agreement. They're not very different. Most differences of opinion among Christians today concern politics or secular history or cultures and customs, and in general are inessential to the faith. People don't always realize, especially if they're lukewarm Christians and not very familiar with the content of the faith to which they nominally adhere, which disagreements are doctrinal and which are inessential. But by far the most important disagreements involve the degrees and ways that Christians compromise with or make concessions to modernity, and these divisions happen much more within the historic Christian denominations than among them. This book has presented a quite "conservative" or "orthodox" Christian theology, and I believe it will find a high degree of agreement among fairly conservative (though perhaps not the *most* self-consciously conservative) adherents of Orthodoxy, Catholicism, and Protestantism alike, while provoking dissent from "liberal" or modernizing elements in all these Christian denominations.

Denominations differ a good deal in the degree to which the hierarchy, leadership, and official statements have sacrificed the historic beliefs and practices of the faith in order to pander to a modern scientific worldview and/or liberal or progressive values. Often, the result is that the best way for members of some denominations to stay faithful to the historic beliefs and practices of those denominations, which the leadership of those churches are betraying, is to abandon modernizing and liberal denominations in favor of more conservative denominations. Many Christians seem to have done that, which is one reason why liberalizing churches regularly see steep declines in membership while more conservative denominations tend to hold steady or grow. The Eastern Orthodox Church is arguably the most conservative Christian church and, at the time of writing, seems to be one of the fastest-growing churches in the United States.

CS Lewis, a member of the Anglican Church, was sharply critical of compromises and betrayals of core doctrines of the Christian faith by Anglican clergymen in his own day. Since then, Anglicans have become much more liberal, so that it's hard to imagine CS Lewis could conscientiously have been an Anglican today. His substantive beliefs would have made him much more at home in Eastern Orthodoxy than in modern Anglicanism.

I tend to find that, in contrast with the unacceptable compromises of liberal modernizers, the historic disagreements that explain the official

divisions of Christianity among so many denominations seem, on closer examination, rather innocuous, and ought to be easy to resolve.

For example, Lutherans tend to make a big deal of the idea that people are saved by faith, not works. They stress this so much that one might get the impression that you can simply believe in Jesus and then do anything you want. That would be a disastrous error at the practical level, and very inconsistent with both reason and scripture. However, if you accuse a devout and articulate Lutheran of believing that you can believe in Jesus and then sin as much as you like, they'll reject it as a slanderous misrepresentation of what their church teaches, and then go on to give an explanation that seems quite consistent with sensible Christianity, but very doubtfully consistent with their insistence that believers are saved only by faith, not works. I think that for most Lutherans, never mind what Martin Luther himself might have thought, the "salvation by faith, not works" theme is a rhetorical overemphasis rather than a doctrinal error. CS Lewis was wiser when he said that asking whether we are saved by faith or works is like asking which blade in a pair of scissors does the cutting. But to emphasize salvation by faith can help to prevent people from falling into legalism and pharisaism, and inasmuch as it reminds men to try to trust God and to mistrust themselves, that's all to the good. It seems clear from history and present practice that Lutherans have never exhibited a strong tendency to treat salvation by faith as a warrant for sin. And while I haven't followed such conversations closely, I've heard rumors that Catholic and Lutheran leaders have discussed this question at a high level and no longer think there's a substantive disagreement.

As another example, my sense from having attended, back when I was a seeker, quite a few churches with some sort of descent from the Calvinist Reformation, is that the doctrine of double predestination, which I can't understand in any sense except that God arbitrarily makes some men fit for heaven while condemning others to hell, is scarcely taught or believed at all in churches with this unfortunate history. That the doctrine is abhorrent, blasphemes against the justice of God, and would make all efforts at proselytization and exhortation to good conduct pointless if it were true, seems so self-evident that I admit that I can't find the patience to look for creditable interpretations of it. But in the actual life of the churches that might be deduced from their histories to believe in it, it just seems to be absent. Perhaps clergy in historically Calvinist denominations would have

ingenious ways to explain the inconsistency. Yes, God can foresee the future. And yes, He probably does have some freedom about whose lives He chooses to approve and accept in the end. Is that all they meant by it? Whatever. The way I would put it is that when you get to know Calvinist Christians, they turn out to be Christians and not Calvinists.

I guess it makes sense that Lutherans and Calvinists would converge back to orthodox Christianity, away from the errors of Calvin and perhaps Luther, since they read the Bible a lot more than they read Luther and Calvin.

As far as I can tell, the ancient dispute between the Catholics and Orthodox about the *filioque*, the Latin word meaning "and the Son," which Western churches gradually began inserting into the Creed starting in Spain in the 6th century, should also be somewhat easy, if not to settle exactly, then at least to neutralize as a barrier to communion. The theological issue, about whether the Holy Spirit proceeds from the Father only or from both the Father and the Son, is far above my head. CS Lewis, in *Mere Christianity*, supplies an intuition for the filioquist position by suggesting that the spirit of God is like the spirit of a club, which arises from the fellowship of God the Father and God the Son, somewhat as the spirit of a club arises from the fellowship of its members, while yet being distinct from the characters, opinions, or taste of those members. Then he adds that while the spirit of a club is not a real person, this is one of the differences between God and men, for the spirit of the "club" of Father and Son is a real person. This is an unusually awkward argument for Lewis, and I get the sense that he's doing his duty as an expositor for popular audiences of inherited doctrines that neither he nor anyone else can fully understand. What we do know, though, is that the *filioque* was not present in the original versions of the Creed, so the Eastern Orthodox are clearly right to reject the way the *filioque* was added to the Creed in the West, if their general view of church governance is accepted. At the same time, Jesus promises to send the Holy Spirit to his disciples (John 14:7), so Eastern Orthodox believers who think the procession of the Spirit from the Father alone is an important theological fact should still be able to accept the *filioque* in this sense. Isidore of Seville, who got the *filioque* started when he introduced it into the creed in Spain as a rebuttal to Arianism, far from being condemned by the Orthodox as heresiarch, is venerated by them as a saint. This whole Trinitarian matter is very arcane. It tends to be singled out

by the most rationalistic expositors of the faith, such as CS Lewis, as a rare example of a Christian doctrine opaque to human reason. And I can't imagine any practical relevance in the dispute.

All in all, these disagreements among Nicene Christians seem less important and difficult, and easier to resolve, than those which the council at Jerusalem in the Book of Acts had to settle. It's tempting to blame Church divisions on the pride and stubbornness of hierarchs, when key points of disagreement involve such arcana, which rank-and-file believers rarely understand and may not even be aware of. But I think the stubbornness of rank-and-file believers is at least as much to blame, for Church leaders trying to negotiate their way out of schism must always fear that reunion with other churches will cause schisms in their own, as believers who are proud of their denominational identities and have entrenched mistrust for other Christian denominations refuse to accept that the "them" has become "us."

And having used the word "stubbornness," I'd better offset that right away by adding that a certain kind of holy stubbornness is often appropriate, wise, and brave. If you've found the truth, you'd better be selective in how you go along with fashionable opinion, and often you'll find yourself backed into a corner and insisting against all comers on some claim they dislike and don't understand. For the most part, I think the stubbornness that prevents Christian reunion is not the holy sort. But it's a hard question.

Nor, coming from an Eastern Orthodox perspective, can I say that Christian people ought always to follow their hierarchs. There are recognized heretics among the patriarchs of Constantinople. The true doctrines of Christianity are safeguarded in the hearts of the pious faithful, not in the Church's official hierarchy, which is all too prone to being appropriated and instrumentalized by wicked rulers. At the same time, the faithful are very prone to prejudice and provincialism.

If anything, I think the divisions of Christianity are the fulfillment of Jesus's prophecy that "because of the increase of wickedness, the love of most will grow cold" (Matthew 24:12). The blame is sometimes more on hierarchs and sometimes more on congregations, but what they are to blame *for* is not so much intellectual error as lack of love. I'll use an example that tells against my own church to help illustrate the point. In 1204, a crusading army from the West sacked the great Orthodox city of Constantinople, the

wealthiest and most beautiful in the world, which had stood firm against Islam for centuries, while carrying the torch of a Christianized ancient civilization. How horrible! How terribly sad! And it adds extra horror that it was done by an army that had marched forth from the West in the name of God! Still, it took place more than 800 years ago. The vast majority of Western Catholics even at the time had nothing to do with it. And yet I have heard Orthodox Christians mention the 1204 sack of Constantinople as a key reason why they can't forgive or desire union with the West. Because of the increase of wickedness, the love of most will grow cold.

We probably can't do much to resist a trend which Jesus seems to have regarded as inexorable. But let us not be among those whose love grows cold. For my part, I bear no ill will towards other Christian denominations, or I hope, by the grace of God, towards anyone whatsoever. The 11th-century schism that divided the Catholics and the Orthodox had something to do with doctrinal evolutions and something to do with church governance, but at bottom, I think it reflected indifference and resentment. The Greeks and the Latins didn't love each other much, and didn't particularly *want* to be in communion, so schism was precipitated easily and not much effort was made to repair it. About the Reformation, too, there was as much nationalism as theology.

If, even today, all the churchgoing Christians on Earth prayed for reunion, and begged their leaders to labor for its establishment, and stood ready to accept changes in beloved customs for the sake of unity, and diligently studied, in a charitable spirit and with open minds, all the compromise statements produced by negotiations, and praised their leaders for progress, and lamented setbacks, and even in the absence of communion eagerly praised the Christian faithful of other denominations for whatever they did well, while stating any criticisms in the gentlest and most constructive way they could, and practiced intellectual humility, avoiding dogmatic attachments to doctrinal statements they couldn't fully understand or lacked sufficient evidence for, and engaged in heroic, self-sacrificing generosity towards Christians of other denominations at every opportunity, then it might be as easy to restore the universal communion of the Christian faithful as it was at the council of Jerusalem in Acts 15. I'm not expecting that to happen.

But I wonder if the chief purpose of all the calamities prophesied in Revelation is to throw Christians together in desperate situations so that

some of them at least will forget old, petty disagreements and relearn mutual love. Maybe Christians who barely spoke to each other while they worshiped across the street for decades of Sunday mornings in prosperity will welcome one another into their homes as refugees from falling stars or plagues of locusts, and suddenly find that they are all Christians together after all, and they love each other, and delight in one another's company, and they can't help worshiping Christ together, and the long, sad divisions among Christians will melt away.

With all that said, let me come back to the question with which I begin the chapter. If you're persuaded of the need to go to church, then which one? Of course, if you're an unattached single with no ties to any church community, and if a strong Orthodox parish, full of real zeal and love and clean living, is nearby– and I have known such, thanks be to God!– then it's easy for me to give advice. Start going to services there. Meet the people. Participate. And soon you can become a catechumen, on the road to baptism.

But some unattached singles may live a hundred miles from the nearest Orthodox parish. And the nearest parish may conduct its services almost entirely in a foreign language. And it may be short on zeal, lax in its practices, ineffectual or indifferent in urging its members to avoid fashionable sins of fornication or avarice, and festering with nationalist resentments and conspiracy theories. And there may be a thriving Lutheran or Methodist or Presbyterian or Catholic church next door, with a wise and a loving priest or pastor, and a congregation singing hymns of joy and bearing one another's burdens and reading the scriptures and having conversations so edifying that any eavesdropper will have food for joyful thoughts for days afterwards. Even in such a case, if you believe that bread and wine are by a sacred mystery transformed into the body and blood of Christ, and that the power to provide this sacrament has been transmitted from ordination to ordination, since the time of the early Church, and all the way back to the apostles, then there is a case for putting up with the hundred-mile drive, and the bitter, nationalistic fellow parishioners, and the foreign language services, in order to partake of the true Body and Blood. Still, I'm not sure I can bring myself to urge Western seekers to pay any price in order to prefer a bad Orthodox parish over a good Western congregation.

A different sort of difficulty arises if a mature, well-established Christian tightly integrated into a Western Christian community becomes convinced of the superior canonical and/or doctrinal claims of the Eastern Orthodox Church. Should you leave behind family and friends and go, alone, to a strange church where no one knows you? Maybe. But what would happen to those you leave behind? Some may have depended on your example and counsel to guide them. For some, your absence may jeopardize their very Christian faith. For others, you influenced their Christian faith and practice in a wholesome direction. If you stayed in your Western community, you might even have had a chance, at some point, to bring about the incorporation of the whole community into the Eastern Orthodox Church as a body. Such things have happened. On the other hand, can you stay in a Western congregation, believing in Eastern Orthodox ecclesiology, without lying? And if you convert, you may bring others with you into the Eastern Orthodox Church who would never have come. Those you could have brought into Eastern Orthodoxy with you might otherwise, if you don't, even leave Christianity altogether because of the same doubts of their Western denomination which are leading you towards Eastern Orthodoxy. There's no end of the complications here.

I'll hazard three pieces of advice concerning the choice of a church.

First, if you find a genuine community of Christians, stick to it. I don't mean people who label themselves Christian, of course. I mean people for whom their discipleship of Christ is the most important thing in their lives, and who strive to follow His teachings in everything they do. Remember what Christ promised: "For where two or three gather in my name, there am I with them" (Matthew 18:20). Christ will be invisibly present wherever two or three Christians come together to follow and worship Him. So don't be a church shopper. In the best Christian communities, there are all sorts of petty frictions. That's nothing compared to the value of the presence of Christ.

But second, be truthful, and don't let peer pressure from a Christian community make you assert something that you cannot really believe. For me, it was papal infallibility in the case of the Catholics, and a conviction that personal salvation is a once-and-for-all event that happens during this life, in the case of the most devout Evangelical communities that I met. I don't think intellectual honesty requires that you thoroughly vet every doctrine that was ever ratified by the official hierarchy of a church that you

attend. I think some doctrines atrophy and become irrelevant without being formally repudiated. But a church is naturally a community of agreement, as I explained in chapter 4, and if you cannot accept doctrines that are central to the religious life of your fellow believers, you will become uncomfortable and feel like an outsider. Don't tell lies to escape that feeling. Let God send you a new church instead.

And third, remember that Christ told us to eat His Body and to drink His Blood, so look for that holy food. Here history seems relevant, for the sacramental gift ought to be passed down as a gift and not claimed by someone merely on their own authority. But I think the witness of the feelings of the heart, and of the Holy Spirit and response to Christian prayer, are as important. However you discern, remember that Jesus said: "Very truly I tell you, unless you eat the flesh of the Son of Man and drink His blood, you have no life in you" (John 6:53). Find that precious food and drink.

Those three principles were enough to lead me into Eastern Orthodoxy.

Good luck on your journey! Keep praying, and by the grace of God, one thing will lead to another, and soon you'll be doing some good, and beginning a life story that's fit to be written in the Book of Life, and carried into eternity.